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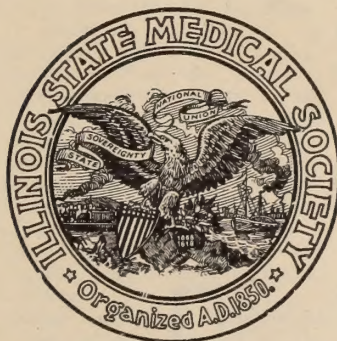
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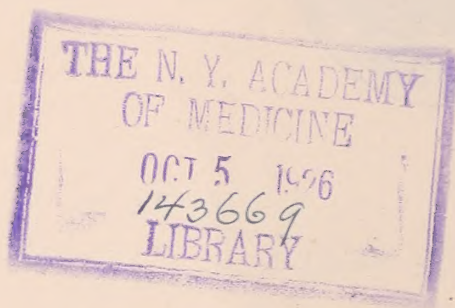
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INDEX TO VOLUME XLIX

January to June, 1926

This is an alphabetical index of articles and discussions arranged by leading words. It contains occasional cross references. Names of authors and men who discussed the papers are also included. Details of society proceedings, including the titles

of papers read, officers elected, etc., can be located in proceedings under Societies, Editorials, News of the State, Marriages, Deaths. The subjects of editorials also appear alphabetically and are marked (E).

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OAK PARK, ILL., JANUARY, 1926

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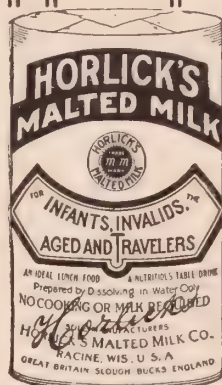
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ILLINOIS MEDICAL JOURNAL

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THE ILLINOIS STATE MEDICAL SOCIETY

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Editorial

THE NEW YEAR CALL

A New Year awaits the kindest use to which men may put this measured period of time.

And so for all the readers, advertisers, patrons and subscribers of this periodical, the ILLINOIS MEDICAL JOURNAL and its editors extend the greeting

"A Happy New Year."

Centuries ago the Persian Poet, Omar Khayyam wrote "Now the New Year reviving old desires," which was the poet's way of saying that the new year awakens in the heart of the average man a longing to do better by himself and his work and his people than he has done before. One of the best points about human nature is the never stilled hunger for embellishment of effort that may make us appear to be something brighter and more desirable in the eyes of our fellowmen. This is legitimate compensation for the ever human tendency to err.

A current magazine phrases the hypothesis from the converse viewpoint, remarking "This is the last number of the old year. The best part of such a time is that it enables us to look back a year and see if progress has been made. Magazine progress is of many kinds; it can show in appearance, or in the increased circles of its friends; or in the greater variety, depth and quality of the published material."

To those who have followed the efforts of the ILLINOIS MEDICAL JOURNAL through the years since its founding, this published creed will appear as nothing new. For just such ideals have been upheld by this magazine. For the published material of interest to physicians, surgeons and affiliated professions the world over, the magazine has its courteous and learned contributors to thank. For the support that makes possible the publication of the journal credit must be given those advertisers who are wise enough to "know a good thing when they see it." and

to the readers who are blessed with similar prescience when it comes to scanning advertising columns. As the ILLINOIS MEDICAL JOURNAL stands back of its advertisers the readers needs less knowledge of this specific sort than does the advertiser.

Probably during the past year there have been disappointments as to what this journal might have done. The mass of contributed material must be edited and selected so as to do the greatest good for the largest number. That a degree of efficiency in this respect is attained must be true as is evidenced by the large national and international subscription list.

If the ILLINOIS MEDICAL JOURNAL might ask for any gift from its friends during the next twelvemonth it would be for

1. Greater interest in the organization of the medical profession into a choate unit to work for the interests of the mother science, and therefore, for that of humanity at large.

2. Unified action against the insidious encroachments of socialism into our democracy through pretense at medical progress.

3. Unified action against the creation of a bureaucracy, and the passing the useless and handicapping and interfering legislation and the lay dictation of medicine.

4. A greater participation in civic affairs by the medical profession with the physician returning to his earlier position as an active factor in public government.

These are not selfish wishes on the part of the ILLINOIS MEDICAL JOURNAL. Rather are they inspired by the desire to see the profession, when this coming year shall have ended, at least ten years ahead in progress, gauging by the decade just passed.

As for the gifts that the Journal would give to its friends and patrons, these would be the same that the Journal would have. Possession of these desires accomplished would mean so much not only to the mother science, but to every doctor and to every individual in the United States that nothing better might be asked for. When the medical profession shall have been given the rights it should have, the world will be a long stride on the way towards the millenium. After all "Health is wealth," or at least the foundation of a prosperity far more to be envied than any fabled, yet discretionary Midas touch. The editor of this Journal feels that

within certain boundaries he can speak as a prophet. Years ago he forecasted just such inhibitions as have made life a burden for the doctor this past ten years, thanks to uninspired legislation that makes the practice of medicine twice as burdensome as it has any right to be.

Tasks of the old years cannot be cleaned out of the way until the medical profession joins its strength and like the battering-ram of old makes its power felt at the gateway of the sayso of a great democracy. That gateway is the ballot-box. The physician may hate politics but it is one of the inevitables, that like scarlet fever he must either control or be controlled by the disease.

With this old burden freshly faced, and with hopes for its conquest during the next twelve months will the public at large and the profession in particular accept from the ILLINOIS MEDICAL JOURNAL the best of good wishes for a rich, a worthwhile, and an uplifting new year.

1925—————1926

The old year has gone, the lights are out; nothing remains of the fast and furious fires of the year except a handful of cold gray ashes blown by the winds of heaven to the four corners of the earth. The recording angel has made up the record, he has written the last word on the last line, has turned the page and sealed it. Is there a blot on the record: it will remain. Does the record show mistakes; they are permanent. Nothing will undo the past, no human effort will change one line, one word, one letter. We must stand or fall by the record. Is that record what you wish it to be? Would you change it if you could? Would you expunge a part of it, or make any additions, if it were in your power to do so?

Last night the joyous peals of the bells ushered in a new year, a year of bright expectations and strong resolutions. The page is spotless and awaits the inscription. Will there be a blot on this page too? Will the experience of the past guide us and teach us how to keep the record free of all blemishes? If we have made mistakes in the past (and who has not made them) let us resolve to avoid them during the coming year. Let us be loyal to each other and loyal to our society; let us be better men as well as better doctors, let us live up to the expectations of the people of our community. Let us keep ever in

our mind the principle so beautifully expressed by Tennyson,

"Man am I grown, a man's work must I do.
Follow the deer? Follow the Christ, the King,
Live pure, speak true, right wrong, follow the
King.
Else, wherefore born?"

WITH APOLOGIES TO NO OTHER JOURNAL OR MAGAZINE

The ILLINOIS MEDICAL JOURNAL was one of the first publications to make an issue of State Medicine, the over centralization of government in Washington, with the consequent bureaucratic control of executive powers, and of state subsidies as well as the mountainous masses of law that have been loaded on the backs of the American people. We have always held that bureaucracy and over centralization is a curse wherever inaugurated and that in the management of medical affairs they are fatal. The campaign to counteract this vicious trend of the times is becoming general. It begins to look as if relief might result.

Thinking men of the country are applying themselves along these lines. Among the hundreds of statesmen and economists devoting profound study to a way out from this red tape hobble are President Coolidge, former Vice-President Thomas H. Marshall; former Governor Lowden of Illinois; Governor A. C. Ritchie of Maryland; Nicholas Murray Butler, President of Columbia University; David Kinley, President of the University of Illinois; President Goodnow of Johns Hopkins University; Senators Albert J. Beveridge of Indiana, Senator Moses of Massachusetts, Senator William H. King of Utah, Senator James Reed of Missouri, Senator William E. Borah, of Idaho; Senator James W. Wadsworth and others, many of the same people who as far back as twenty years ago and as recently as five years ago, accused us of tilting at windmills, advocate now what we suggested them. That is the abolition of useless, imperfect and incongruous laws; the re-establishment of the home; local self-government, and a return to the first principles of this democracy—back to the "rule of the people, by the people and for the people."

ANNOUNCEMENT

The Tenth Annual Congress on Internal Medicine will be held at Detroit and Ann Arbor, week of February 22-27, 1926.

The Congress is devoted to amphitheatre, bedside and clinical laboratory demonstrations as well as to symposia dealing with modern phases of internal medicine. Distinguished guests from abroad, Canada and the leading clinics of the United States will occupy prominent places on the program. Four days will be devoted to the work at Detroit and on one day, the society will be the guest of the University of Michigan at the newly opened eleven hundred bed University Hospital.

All physicians, who are interested in internal medicine and who are members in good standing of their local and national societies are cordially invited to attend the Congress.

Hotel headquarters will be at the Book-Cadillac in Detroit. Information regarding reduced railroad rates, program, hotel accommodations, etc., may be secured from the Secretary-General.

C. G. JENNINGS, M. D., President,
American Congress on Internal Medicine,
Detroit, Mich.

FRANK SMITHIES, M. D., Sec'y. Gen'l.
920 N. Michigan Avenue,
Chicago, Ill.

LAYMEN IN CHARGE OF HEALTH DEPARTMENTS IS A MISCHIEVOUS DECEPTION OF THE PUBLIC

LAY PERSONS ARE NOT CAPABLE OF DIRECTING WORK OF PHYSICIANS. HEALTH OFFICIALS SHOULD FIRST BE PHYSICIANS. RESOLUTIONS OF THE CHICAGO MEDICAL SOCIETY

Whereas, The American Public Health Association at its Annual Meeting in St. Louis, in October, 1925, listened to an address by one of its members, favoring a new doctor in each community where a Health Officer is needed, to be known as a Doctor of Public Health, and

Whereas, Several institutions of learning have introduced courses in Public Health whereby a layman as well as a physician, may be instructed and in a comparatively short time qualify as a

Doctor of Public Health, (D. P. H.) and be allowed to advise, qualify and practice preventive medicine, and

Whereas, In all probability a Bill to license a so-called D. P. H., will be introduced into the next Session of the State Legislature of Illinois, and

Whereas, The Chicago Medical Society believes that all Health Officials should first be physicians, (M. D.), who have the proper knowledge of the sciences concerned in Public Health, and that such knowledge cannot be gained by any layman in two or three years, and

Whereas, Such an arrangement of a layman being a Health Official, places a double expense on the community, since it is necessary for the community to then procure the service of an M. D., in addition to a layman, and

Whereas, The State confers on an M. D. the right to practice medicine and surgery in all its branches, while the special licensing of a D. P. H. would be special legislation tending to take from an M. D. that right.

Therefore Be It Resolved, That the Chicago Medical Society believes all positions of trust pertaining to Public Health in any community should be held by physicians, (M. D.) and not by laymen holding D. P. H. licenses, and

Be It Further Resolved, That the Chicago Medical Society views with displeasure any move on the part of the American Public Health Association, which may express a desire to replace physicians as Health Officials by laymen with D. P. H. licenses, and

Be It Further Resolved, That a copy of this resolution be sent to the American Public Health Association; to all those institutions of learning where courses in Public Health are given with a view to conferring a D. P. H. Degree; and to every State Medical Society with a request that their component County Societies be made acquainted with the proposed activities of a Public Health Association, whose President is a layman.

Motion was carried that this Resolution be adopted.

On motion the meeting adjourned.

FRANK R. MORTON, Secretary,
Chicago Medical Society.

DR. HENRY WILSON CHAPMAN

Dr. Henry Wilson Chapman, born, 1850, in Cincinnati, was graduated from Washington University Medical School, St. Louis, 1877, and practiced in White Hall till his death, December 13, 1925, from cerebral hemorrhage.

He organized the Medical and Surgical Society of Western Illinois in 1882 and was its first secretary. This became a district society of which he was president for several years. Later it corresponded with the sixth councilor district. He was a member of Greene County and Illinois State Medical Societies and a Fellow A. M. A.

ENSWORTH MEDICAL COLLEGE ALUMNI

The Alumni Association of the Ensworth Medical College was formed in Kansas City in October, with a membership of forty-three. Dr. Charles Geiger of St. Joseph was elected president of the association. The writer is very anxious to have enrolled all the graduates of Northwestern, Central and Ensworth Medical Colleges. The dues are \$1.00 per year. We hope to have 100 in attendance at the meeting next fall. All graduates of the three colleges mentioned above are urged to send in their names to the secretary for enrollment at once.

CHARLES WOOD FASSETT, M. D., Secretary,
115 East Thirty-first Street,
Kansas City, Missouri.

ALL PHYSICIANS ENTITLED TO TREAT PATIENTS IN THE MUNICIPAL SANITARIUM

The Illinois City Tuberculosis Act, as amended at the Forty-eighth session of the Illinois Legislature, 1913 reads as follows: Article Two. "All reputable physicians shall have equal privilege in treating patients in said sanitarium."

THE BIRTH CONTROL PROBLEM IS ONLY ONE ASPECT OF THE LARGER POPULATION QUESTION

LIFE INSURANCE STATISTICIAN ATTACKS BIRTH
CONTROLISTS. WHEN EMOTIONALISM
MEETS REASON

Lewis I. Dublin, Ph.D., statistician of the Metropolitan Life Insurance Company told the recent International Birth Control Conference

that he disagreed with them. Some of his reasons in brief were:

"Because your propaganda until yesterday has been based essentially on an emotional reaction and not on a scientific analysis.

"Larger families among poverty stricken, however deplorable, do not justify a nationwide program of broadcasting contraceptive information without reserve.

"Your effort will simply replace an evil of which we are fully aware and which we all deplore with even greater evils lurking less obviously in the background. There is need for caution; for you are playing with fire. Mistakes in population policy are more easily made than rectified.

"The birth control problem is only one aspect of the larger population question, and will never be settled satisfactorily except as the larger issue is solved.

"I cannot consider the underlying causes for the decline in our birth rate except to point to the very obvious influence of the widespread knowledge of contraceptive methods. One would imagine from your literature that such methods were a recent discovery which, if only applied generally, would release a long-suffering world from all its troubles. But, this is clearly a misconception.

"There is evidence on all sides that birth control practices are in vogue to an enormous degree in the United States. Every doctor, every nurse, every druggist, and every social worker, will, I believe, admit as much. In no other way can we explain the falling birth rate of the country in recent years.

"Knowledge of contraceptive methods is more widely practiced here than in any other country of the world, except Germany and Austria, where the aftermath of the war has taken all desire and incentive for living out of the hearts of the masses. Holland, which you consider the exemplar of voluntary parenthood, shows a birth rate of 26 per 1,000, as compared with 23 in the United States.

"You have won much sympathy for your program through the assumption that it works in the direction of social and economic improvement of the poor. But obviously economic battles cannot be fought by other than economic weapons.

"You do not solve the worker's problems by encouraging him to lose his greatest and noblest possession, his children. On the contrary, you help to maintain the status quo by accepting present economic maladjustments without a struggle.

"Have you not a moral obligation to assure those whom you wish to help that the procedures you sponsor are at once effective and harmless? The best medical opinion informs me that you are, in fact, not prepared to make any such guarantees." . . . "Such information as is available indicates clearly that there is still a large element of uncertainty in the suggested procedures.

"You have, heretofore, limited yourselves almost entirely to arousing sympathy for those who have suffered from over-large families. Today, you might very well

take up the other side of the picture and help arouse public sentiment in favor of fairly good-sized families among the rank and file of normal people.

"What is most vitally needed today is more light on the problem of population and not wider dissemination of questionable contraceptive practices through such agencies as your current publications.

"Your magazines, sold promiscuously on street corners, are especially offensive and alienate the good-will of many thoughtful people."

HENRY FORD OPPOSED TO STATE AID

Henry Ford has a decidedly definite opinion upon the growing habit of relying upon the government for dols, grants, subsidies and aids.

"The bad habit of relying on Government," he says in a current issue of the *Dearborn Independent*, "for aid was first fixed among industries and then began among individuals. Yet the best businesses grew without special government aid, and so will the best citizenship.

"The genius of the American people is self-reliance. Diminish that and you diminish their government. The old principles that made us great—self-direction and self-help—are still contemporary and valid. Youth never had so great an opportunity as today. Where there was one opportunity fifty years ago, there are hundreds now. There are a thousand times more per capita opportunity than in colonial times. We have always created more niches than we could fill—that is the genius of our nation. Never was there less need of government help, never more doors for self-help, than now."

OVER \$135,000,000 IN CHARITY SERVICE GIVEN ANNUALLY BY PHYSICIANS

OUR NATIONAL DOCTOR'S BILL THE PUBLIC'S DEBT

It has been computed by conservative physicians that 40 per cent of their service is gratuitous either through voluntary service or through clients failing to pay the doctor's bill.

A cursory survey of the gratuitous service given by physicians through medical institutions in the Greater City of New York, based upon the number of "free hospital days" aggregates \$16,000,000 annually.

This figure by no means indicates the total bill that the city-controlled and private hospitals would have to pay if the doctor, like other professional men, demanded and received payment for each and every service performed.

It is based upon returns from but 107 of the 140 odd medical and surgical serving institutions giving some portion of charity service.

Evaluating the physician's service nationally upon the hypothesis that outside New York City but a pro rata service in quantity is given equal to 50%, and assuming that each "Hospital Days" service was paid for at the rate of \$3.00 per day, the nation's bill due the doctor would be more than \$135,000,000 annually.

A survey made within the City of New York (by no means complete because many of the hospitals had not their figures at hand for this quick computation) shows the following:

Institutions in New York are roughly grouped into five classes:

Group one and two are the city-controlled hospitals—those operated and maintained by the City Government—and are composed of fifteen institutions, ten of which are under the management of the Department of Public Welfare; the others, known as Bellevue and Allied hospitals, include five institutions.

The third group are those supported in part by the Catholic Charities, of which there are twenty-two institutions. The fourth group is the United Hospital Fund group, which is financed annually, partly through drives, representing fifty-six institutions. The Independent Hospitals into which class are gathered all those institutions not included in the above four groups compose the fifth group. There are forty odd institutions in this latter group, of which number fourteen have made returns for the purposes of this survey, the other four groups being complete in their returns.

These groups show the following:

	Hospitals.	Free days
Department of Public Welfare group	10	1,879,871
Bellevue and Allied Hospitals.....	5	859,232
Total City controlled hospitals.....		2,739,103
Catholic group	22	322,610
United Hospital Fund group.....	56	1,563,658
Independents	14	395,131
Total	107	5,020,502

The total displayed above, 5,020,502 "free hospital days" represents the number of free days service given to free charity patients in the city's hospitals in a year.

Going a step further it is no exaggeration to say that each patient is visited at least three times in each "hospital day" by a physician who receives no compensation whatsoever.

If we compute each visit of the physician as being worth a dollar, we find that the bill would be \$15,061,506 per annum.

This includes the services of the consulting and outside attending physicians and surgeons, together with the services of the internes, but it is all medical or surgical service.

In taking three dollars as the equivalent of service of the consulting, attending and interne physicians, we feel we are placing the compensation at a price so far below normal for the compensation for a similar service outside the institutions as to prevent criticism or cavil of any kind.

For, when it is considered that these include the best medical and surgical brains in the country, the most expert men in the profession, who, in some instances are known to charge fees as high as \$5,000 for an operation, and others who charge as low as \$25 for a consultation, and then again those who charge no more

than \$3 per visit to outside patients, we feel that we have been almost unfair in the computation of the doctor's bill; but we will let it stand at that figure to show the prodigious sum that annually would be due the doctor if, as I have stated before, he demanded and secured even this small measure of pay for his services in public institutions.

NOW FOR THE NATIONAL BILL

As New York City represents about one-eighteenth of the total population of the United States, the national bill would, therefore, be eighteen times that of the City of New York, but we will not use that figure, because it might be argued by some that the measure of service given throughout the rest of the country is not in the same proportion either in quantity or quality.

Then, there are those who may even claim that the service outside Greater New York by physicians, through similar institutions, is greater proportionately both as to quantity and value.

The figure arrived at here is not intended as one of discourtesy to any city or section in any of the states, it is merely taken to arrive at an evaluation of the national service of the physician—as a basis, if you please, for a more thorough evaluation of his services, and with the hope that a national census may be taken which will be thorough, complete and satisfying.

Therefore we will set down as our premise that the balance of the country gives pro rata a service of but 50% of that given by the City of New York. This abnormally low computation shows that the physicians national bill would total \$135,553,554.

If we place the total number of registered physicians at 165,000 nationally and divide this into the figures above attained, we find that each and every physician in the United States should be credited with \$821 gratuitous service every year.

Of course, every physician is not connected with a hospital or similar institution giving gratuitous service to the poor, and this figure is attained, therefore, by making a spread of the entire bill over the 165,000 registered physicians.

Then, again, it must be remembered that this sum does not in any sense measure the free service of which no accounting ever has been made or ever can be made—of the charity or free service that the physicians give to the poor whom they meet in their daily practice.

Just what this bill would amount to God only knows, because the physician never keeps account of it, and if you happen to mention it to him he will laugh it off, saying "Oh, that's for the good of the service—for the good of mankind."

But there is another element that enters into this question of service for which the physician never is paid, and this is the most baneful element, the unpaid bills of those who are well able financially to meet their obligations to their physician.

Every family doctor has a number of these every year upon his books, and if the facts and figures were recorded, of the money lost to the physicians in this

way, it would stagger one and give to each a twinge of conscience.

And when one considers that the measure of the physician's service is intimate, personal and means relieving the individual of pain, suffering, the saving of a limb, aye, the saving of a life perhaps, this negligence takes on an aspect that is indescribable.

With this situation well in mind, can there be any question as to why so many physicians eke out meager existences, and that many—the majority—die without estate, and that many become public charges because of financial distress?

And with the costs of living rising like the tides, is it any wonder that so many of them are engulfed and have to enter almshouses, or that those capable of it have to seek employment in other lines in order to maintain themselves decently!

THE MEN OF PURE SCIENCE

Again, there is an aspect to the situation which presents a problem that never can or will be solved in the approach that is being made to solve problems of similar kind these days; that is the problem of the man of pure science—the man who devotes himself to the science of medicine and employs his time digging and delving in the laboratory to seek some panacea for the existent ailments of life, or who, built in more heroic mould, submits himself to the torture of disease through inoculation, that he may record the symptoms, and that his brother physicians may record the progress of disease in him, so that mankind may be benefited as the result of his sacrifices and studies.

To evaluate this service of the physician is something beyond the power of figures, or dollars or cents, because there is the jeopardy of life always, and who can say as to the value of a life given in this manner?

The next element is that of the man who through pure service to the public is stricken down, who has to leave his bed at the call of the patient at unseemly hours; who answers call after call in this manner, totally unmindful of his own physical well-being, knowing only that some one is suffering and that his duty is to relieve that suffering. When this man becomes aged, penniless and is incapacitated from going the daily round of the old family doctor, should there not be some place to which he may go; some place to which his eyes may turn in hope and solace?

And then as to the good wife, who has shared his burden through life, and whose warnings and entreaties have fallen upon deaf ears, the only call being heard being that of service—what is to become of her? Is she to be sent to the poorhouse over one hill, and he to be sent to another over the other hill, and thus these twain parted at a time of life when the affectionate companionship of years should solace their few remaining days?

Is this to be their lot?

What is to become of the vaunted ethics, the service and the pride of the medical profession if this be permitted?

To take care of one's own is a natural impulse; to

take care of others is called charity, but to take care of those who sacrifice their health, their strength, their years, their service, in behalf of the public or in behalf of their profession—this calls not for charity, it is a call to duty.

Today there is reported a dearth of physicians throughout the country. There are hundreds of communities where one doctor has to serve many such.

The poor compensation, bad debts, unseemly hours, the personal hazards to health, limb and life do not compensate a physician these days as against other professions, so doctors are becoming fewer proportionately in the rural districts.

And this is no wonder, because according to the American Medical Association, from figures printed sometime ago, \$1,000 was the average earnings of a doctor.

And, of course, it is beyond question as to a man being able to support himself, and make his daily rounds on such a basis of compensation—much less to maintain a horse and carriage, or an automobile, and a family and a home thereon.

All these problems have been revolving in the minds of certain forward-looking physicians for several years with the result that a little experiment or adventure, was begun up in the hills of Caneadea, New York, where there was established a trial unit of a home for aged and superannuated or ailing physicians and their wives. For four years this institution has been doing its mission of mercy and love, and now the calls upon it are so heavy that it seems due the medical profession to found a home, national in scope and service; a place where tranquility will be theirs during their last few years of life.

And as planned by these physicians, it serves a double mercy in that it does not separate the physician from his good wife and life partner at this crucial time in their existence. Provision is made for both at the home, and the fact that it has worked out successfully adds flowers to the benison.

That this national home had not been thought of before, nor had not been actually started before, is due to the diffidence of the profession in its personal affairs—it did not wish to lay bare to public scrutiny that so many within the profession are needy, or may be in actual want.

But when the facts were laid before some of our leading and far-seeing citizens the reply was instant that something must be done, and that they would sponsor a movement to raise funds for the national home.

Here are gathered a few of the words of encouragement and God-speed which have created this enterprise, from the pens of leading citizens.

If after reading them you feel that you would like to help in this great movement by your personal gift, please forward the same by check, drawn to the order of the Physicians' Home, Inc., and mail it to Dr. Albert G. Weed, Treasurer, 22nd floor, Times Building, Broadway and 42nd Street, New York City.

THE DOCTOR'S RECOMPENSE

A little village in southern Ohio has been blessed for forty-seven years by the services of an old-fashioned family doctor. Through the seasons, for nearly half a century he has healed the sick, helped the needy and taken an interest in the lives of its patients and townsfolk—in which he has greatly resembled many another family doctor of that fine type.

He seems to have been almost unique in one regard, however, He kept books but he never sent a bill to any patient for any professional services. The patients paid if, when and what they could. Said this strange man:

"Anybody can make money. I have found my recompense in the satisfaction of service."

The other evening, in the village town hall, a host of grateful patients gave a little surprise party for the doctor. He was presented with a purse said to contain "part of the fees the doctor had forgotten." The purse contained over \$1,000. And out at the curb in front of the building he was presented with a fine new automobile, the gift of "grateful patients."

It is a beautiful story, from every aspect. The world needs more such examples of faithful, unselfish service. And it very greatly needs more such examples of sincere gratitude, joyously expressed.—*Johnson City, Staff News.*

WE WISH THE AMERICAN COLLEGE OF SURGEONS WOULD ENGAGE A WISE PUBLICITY DIRECTOR

We do wish the American College of Surgeons would engage a wise publicity director. Every time these estimable surgeons hold a meeting the press-clipping agencies deliver a mess of mud-slinging that has besmeared all the other members of a great humanitarian profession. The recent Philadelphia meeting was no exception, and too much dirty linen was washed in public. Of course, all destructive criticism of doctors or undue claims by doctors are "news." The more sensational they are, the greater the "news value."

We do not for a moment believe the American College of Surgeons endorses or connives at much of the publicity that accompanies their meetings, and some of it is unavoidable. But much of it would be avoided by a good publicity director, and the reputations of physicians, some 145,000 of whom are not members of the "college," would be cleaner than they are with the obviously ineffective methods now in vogue.—*California and Western Mechanic*, December, 1925.

LACTIC ACID IN THE FEEDING OF PREMATURE CHILDREN

In the *Archives of Pediatrics* for July, 1925, Gleich states that lactic acid milk furnishes an excellent substitute for breast milk in feeding premature babies.

The presence of acid in the milk enables a premature child to tolerate a liberal supply of fat, which

accounts in no small measure for the gain in weight and general improvement.

To encourage the care of premature infants at home, rather than at a hospital, may appear to be quite a departure from the routine. It has been his experience in the care of premature babies to witness an encouraging gain and development during the early weeks of the infant's life. Through cross-infection, which in a large institution cannot be avoided, these children easily fall a prey to disease, usually of the respiratory tract, and soon succumb.

A list of acid milks is appended. Some have been used in feeding premature children; the others, reasoning *a priori*, he recommends.

ACID MILKS SUGGESTED FOR FEEDING PREMATURE CHILDREN

	Cal. per liter	Cal. per oz.	pH.	Buffer value
a. Buttermilk	540-700	16-20	4.55-5.52	low.
10-15 gms. flour				
40-60 gms. sugar				
b. Chymogen milk.....	700	21	4.55-5.52	low.
c. Protein milk.....	626	20	5.5-5.0	low.
(6% sugar)				
d. Lactic acid milk and karo				
syrup, 2 oz.....	940	28	4.0	low.
e. Acetic acid milk.....	790	24	4.2	low.
f. L. A. evap. milk lp. + 2				
pts. water + 30 gms.				
flour + 30 gms. sugar....	627	19		low.
g. Citric acid milk.....	550	16	5.3	low.
h. Hydrochloric acid milk....	700	21	6.0	low.
i. Protein S. M. A. (acidu-				
lated)	500	15	4.6	low.

GONORRHEA IN THE LOWER GENITO-URINARY TRACT IN THE FEMALE

In the *Indianapolis Medical Journal* (December, 1922) Walker embodies his views on this subject in the following conclusions: 1. Gonorrhea in the female is the most poorly treated and most neglected of the infectious diseases. 2. It is many times overtreated in the male and undertreated in the female. 3. Active treatment in acute cases should be very guarded; rest is the most important. 4. Many women have chronic gonorrhea and do not know it. A man will seldom contract gonorrhea from a female upon whom he has conferred the disease. 5. The disease is rather difficult to treat. The greatest difficulty is to get the patient to realize the importance of persistence in treatment. 6. Better treatment and more personal attention to gonorrheal cases would lessen the number of de-sexing operations and greatly reduce the number of gonorrheal infections.

DEATHS DUE TO SYPHILIS IN FRANCE

Twenty thousand infant deaths, 40,000 abortions and 80,000 deaths among adults is the toll exacted by syphilis in France each year, according to the Minister of Labor, Hygiene and Social Welfare as reported in a recent number of *The Lancet* (London). The government is undertaking a campaign of public enlightenment and is instituting preventive measures for which 4,000,000 francs are appropriated annually. The Minister states that progress is taking place and points to the fact that syphilis is no longer regarded as a disease to be hushed up.

Correspondence

THE DEATH OF DOCTOR L. C. TAYLOR

Springfield, Dec. 15, 1925.

To the Editor:

When I learned of the death of Doctor L. C. Taylor, I realized that one of the very best friends of the Medical profession had passed away.

Doctor Taylor was appointed chairman of the Medical Examining Committee in 1917, at the time the Department of Registration and Education was organized under the Civil Administrative Code. He served continuously as a member of that Committee until his death, although there were times when he was abroad or on an extended vacation that he was absent from the immediate work of the Committee.

For many years, Doctor Taylor served the medical profession effectively as a member of the State Legislative Committee and was closely identified with medical legislation. He was the resident member of the Examining Committee here at Springfield and frequently I found it necessary to consult with him and I am sure I shall miss his words of encouragement.

He was an active student, resourceful and of good judgment. I feel that the Department has lost a real friend through his death.

I am writing you this letter in order that I might say for the Department of Registration and Education, a word of appreciation in behalf of the long public service rendered by Doctor Taylor.

Very truly yours,

A. M. SHELTON,

Director Department of Registration & Education.

ADAMS COUNTY RESOLUTIONS

Quincy, Illinois, December 23, 1925.

To the Editor:

Please publish the enclosed resolutions of the Adams County Medical Society, also find enclosed the correspondence relative to the controversy.

The newspapers here have given the controversy wide publicity.

Adams County Medical Society,
HAROLD SWANBERG, M. D., Secretary.

The following is the resolution and a brief of a reply of the Western Catholic Union Building management.

RESOLUTIONS

WHEREAS it has been called to the attention of the Adams County Medical Society that the management of the Western Catholic Union Building of Quincy, Illinois, is sending out literature to physicians outside of Quincy stating "that there is a demand here" for physicians and surgeons, and that such management is endeavoring to induce physicians located in other communities to come to Quincy to practice their profession and secure offices in the W. C. U. Bldg.; and,

WHEREAS at present there is an ample number of physicians in Quincy to take care of the needs of the people, which is testified by the following facts:

The A. M. A. states that at present (1925) there is an average of one physician to every 726 people in the United States. The 1925 A. M. A. Directory gives the population of Quincy as 36,764 with 72 graduate physicians, making one physician to every 511 persons. It is claimed, however, that Quincy now has 41,000 people. A recent survey shows 71 graduate physicians here, which would make the physician to population ratio 1 to 577 even if Quincy's population be considered as 41,000 (U. S. Census Bureau estimate of Quincy's population for 1925 is 37,500). Therefore it is easily seen that even if Quincy has a ratio of 1 to 577, it is much more than the average throughout the country (1 to 726) and that Quincy actually has now a *surplus* of physicians.

WHEREAS the spreading of such false information concerning the "demand" for more physicians in Quincy is apt to work a real hardship on physicians who may be induced to locate here by causing them to give up a practice in other territories to come to a community that already has a *surplus* of physicians,

Be it resolved that the Adams County Medical Society at its regular meeting held at Quincy on the 14th day of December, 1925, protest this action of the Western Catholic Union Building management and that copies of this resolution be sent to all members of the Supreme Council of the Western Catholic Union, to the

American Medical Association and the several state medical associations in nearby states as well as the Quincy press.

Adams County Medical Society,
HAROLD SWANBERG, M. D., Sec.

REPLY FROM THE W. C. U.

To Adams County Medical Society:

With no apologies to offer, we gladly take this opportunity to correct an apparent misunderstanding on the part of the Adams County Medical Society as evidenced by the article and resolution in Tuesday evening's paper. We emphatically deny the charge that we have tried to spread false propaganda. To justify the sending out of the prospectus objected to by the medical society, we wish to state that a number of these have been sent out to all classes of professional men such as bonding houses and bond salesmen, insurance companies and insurance agents, real estate agents, in fact to professional men and women of every nature, and not merely to doctors and dentists. Newspaper advertisements have been carried on in some of the metropolitan papers, advertising Quincy and our building, in fact the physicians were only one class of professional men who have been asked to come into our building.

In sending our prospectus and in advertising in the metropolitan press we have not only advertised the building, but we have advertised Quincy, expressing our honest opinion about Quincy's wonderful standing and doing for it only what a real friend of Quincy could be expected to do. The retail merchants, wholesalers, manufacturers and professional men maintain the Chamber of Commerce for the purpose of promoting the general welfare of our city, constantly striving to bring new business to the city.

(Signed) F. WILLIAM HECKENKAMP, JR.,
President W. C. U.

NO NEED IN ILLINOIS FOR A SOCIAL
WELFARE SERVICE FROM THE
MAYO CLINIC

Mattoon, Illinois
December 16, 1925.

To The Editor:

Inclosed find letter which is self-explanatory and I trust that it may be of some use to you in your editorial work. I was not aware of the

extent of the Mayo Clinic's work along the line of social welfare work until I received this letter. It seems to me there should be some limit to that kind of stuff.

In Coles county we have no T. B. nurse, no community nurses, no welfare workers and no free clinics. Mattoon and Charleston each have a school nurse. The county judge of Coles county during the past year sentenced three chiropractors, two to the penal farm for six months and one to the county jail for violation of the medical practice act.

Being health commissioner of the City of Mattoon, I believe I am in a position to authoritatively state that health conditions in Coles county were never better in spite of the fact we have been deprived of the benefits of community nurses, red cross nurses, welfare workers and social uplifters.

Very truly yours,

T. O. FREEMAN.

The following is a letter from Mayo Clinic:

December 5, 1925.

Dr. T. O. Freeman,
Health Officer,
Mattoon, Illinois.

My Dear Dr. Freeman:

Miss ———, Mattoon, has been a patient here several times. In September, 1925, she was found to have active, advanced, pulmonary tuberculosis, positive sputum and sanatorium care was advised. Miss ——— told us that she did not know whether sanatorium care could be afforded by the family. Her mother is Mrs. ———. Miss ——— lives with her mother.

We referred the case to Miss Kaelberer, Community Nurse, but she wrote us that she had discontinued the work and was unable to make the visit. We have not had any answer to our letters to Miss ——— and we are very eager to know in these cases of tuberculosis what arrangements can be made for sanatorium care. It seems particularly urgent that this patient should have some advice in making plans, since her father and four brothers and sisters died of tuberculosis.

May we hear from you as to what arrangements this patient has made and what her condition seems to be at this time?

Very truly yours,
HELEN ANDERSON YOUNG,
(Mrs. Helen Anderson Young),
Director, Medical Social Service.

NEOSALVARSAN IN ANTHRAX

One injection of neosalvarsan is generally sufficient to cure anthrax. (Grasser, *Wien. klin. Woch.*, 1924). This treatment is also recommended to veterinarians.

Original Articles

ABNORMALLY LOCATED GOITERS*

FRANK H. LAHEY, M. D.

BOSTON, MASS.

The development of the thyroid from the ventral aspect of the entoderm close by the ventral end of the first pharyngeal pouch caudal to the anterior portion of the rudimentary tongue is too well known to require extensive repetition. As the embryo enlarges, a bud of thyroid tissue develops away from the pharyngeal ventrally and a canal remains behind to connect it with the point in the pharynx where the thyroid originated, the dimple at the apex of the circumvallate papillae, the foramen cecum. As the embryo develops the bud descends through the tongue, becomes bi-lobed and occupies its worldly position below the thyroid cartilage, leaving behind it a fibrous tract which is normally the obliterated tube connecting the gland with its point of origin, the foramen cecum. Dependent upon the time relation of the fusion of the hyoid bone to the time of descent of the thyroid, this so-called thyro-glossal tract is located behind, through, or in front of the hyoid bone. If any portion of the thyro-glossal tract remains unclosed, there then occurs the so-called thyro-glossal cyst.

It is now quite universally accepted by embryologists that the thyroid originates but from a single median anlage and that the existence of lateral anlagen has been disproven embryologically by the failure of the so-called ultimobranchial bodies which were thought to represent the lateral thyroid organs, to develop distinguishable thyroid tissue. Likewise, clinically, it is disproven by the fact that myxedema frequently develops after the excision of lingual goiter, an example of which we reported two years ago in the *Journal of Surgery, Gynecology and Obstetrics*. It is at once obvious when myxedema develops after excision of a lingual goiter that the goiter represents all the existing undescended thyroid tissue and that myxedema should not occur if lateral thyroid bodies exist, since in lingual goiter only the thyroid of median origin is removed.

Since usage has established the terms lingual,

sublingual, etc., goiter, even though they represent in reality only accessory or aberrant thyroid tissue, they must necessarily be included in a clinical discussion of misplaced goiter.

With the exception of the lateral aberrant thyroids, which occasionally occur in the supra-clavicular space outside the sterno-mastoid muscles and are caused by segments of embryologic thyroid tissue becoming detached in development and remaining as rests until late in life, it is evident from the brief discussion of the embryological descent of the thyroid that the misplaced goiters due to developmental defects must occur in the median line somewhere between the extrauterine position of the thyroid isthmus and the foramen cecum at the base of the tongue. A few have been reported in the median position in the mediastinum, and endotracheal thyroid tissue has also been reported, usually at the junction of the larynx with the trachea.

These aberrant goiters consist first of a true lingual goiter in which a mass located in the median line on the posterior aspect of the tongue projects above the level of the tongue. The tumor is dark red, lobulated, and bleeds readily on scratching. In such a case operated on in our clinic the size of the mass was of sufficient magnitude to interfere with swallowing, and, as stated above, myxedema resulted after its removal.

The intralingual goiter is similar, as is the sublingual, except for their location, as their names imply. These goiters are, as a rule, solid masses of thyroid tissue, although adenomata which could be shelled out have been reported.

Thyroids which descend below the hyoid rarely fail to reach their normal position, although long tail-like masses representing the pyramidal lobe may run well up the neck.

Removal of the lingual, intralingual and sublingual goiter should be undertaken only when they are producing symptoms, which occur in the form of pressure or obstruction to swallowing food. The very great possibility that their removal may cause myxedema should lead one to operate upon them only with very clear indications for doing so.

If surgery is to be undertaken, the true lingual goiters projecting into the mouth are best removed through the mouth. The mass may be excised by snapping and cutting each section individually, the removal being wedge-shaped in

*Read before the Inter-State Post Graduate Assembly of America, Milwaukee, Wis., Oct. 27-31, 1924.

character so that the edges of mucous membrane may be co-apted over the defect.

Intralingual and sublingual goiters are best removed through the floor of the mouth, and a transverse rather than a longitudinal skin incision should be made. Longitudinal skin incisions in the neck made from the median portion of the chin down the neck tend to produce unsightly and disfiguring scars of the check-rein variety. The removal of goiters below the level of the hyoid requires no special mention, as their operative treatment does not differ from that of the goiters of usual location.

Before leaving the subject of goiters due to developmental errors, it would be well to say a word regarding the classification of these types of goiters from the point of view of their anatomical character rather than their location.

A true accessory thyroid is one in which the area of thyroid is in no way connected with the thyroid, even by a band of fibrous tissue.

A pseudo-accessory thyroid is one in which the area of thyroid tissue appears to be separate from the gland, but on closer examination proves to be connected to it by a narrow isthmus of thyroid tissue.

An allied accessory thyroid is an area of thyroid tissue separated from the gland by some distance but connected with it by bands of fibrous tissue. These are usually adenomata which have become extruded from the gland and have slipped either under the belly of the sterno-mastoid muscle so that they are external to it, or into the superior mediastinal cavity. The fibrous bands are portions of their capsules still remaining attached to the site of the adenoma's origin in the thyroid.

The true misplaced goiters in the accurate sense of the term are the true enlargements of the thyroid itself which have acquired an unusual location.

The types of goiter which are prone to acquire unusual location in their order of frequency are adenomatous goiter, most commonly single adenoma, colloid goiter and cystic goiter.

Encircling goiters have been by no means rare in our experience and have usually been of the colloid variety.

Diffuse colloid goiters are very apt to have well marked prolongations of their upper poles—the gland tapering upward into an apex so that an extension of several inches beyond the point

of entrance of the superior thyroid vessels may exist. These prolonged superior poles may occupy one of two positions. They may extend directly up along the anterior border of the sterno-mastoid muscle until in extreme cases the upper limit of the goiter appears to be just beneath the ears, or the prolonged upper poles may slip inward beneath the superior thyroid vessels. Poles of this type enter the gland well below the very apex of the pole where they so constantly enter in goiters of the primary hyperthyroidism or exophthalmic type. Having turned their apices inward, they then pass directly behind the thyroid cartilage, the right and left upper pole passing inward from either side until they meet, and often pass each other, thus producing a complete encirclement of the larynx. We have occasionally seen respiratory difficulties with goiters of this type, but due to the unyielding structure of the laryngeal box, stridor and difficulty in breathing in goiters of this type have not been common. Most of the completely encircling goiters have been discovered by us in the course of a thyroidectomy when the poles were found by the exploring finger to extend behind the laryngeal cartilage.

In the same way the nodular goiters appearing high on one or both sides of the neck are adenomata developing in the upper pole or poles and slipping out beyond the upper border of the omo-hyoid muscle.

As to the surgical removal of goiters of either of these types little need be said, except that dislocation of the prongs of thyroid tissue projecting behind the larynx should be made by passing the finger behind the thyroid mass rather than in front of it, thus avoiding injury to the superior thyroid vessels which pass over and enter on the anterior surface. In this way the tongues of thyroid will be so dislocated outward that the cord of vessels making up the superior vascular pole will stand out plainly, entering well down toward the body of the gland, and may be ligated or clamped in one grasp.

A little lower in the neck we have in a very similar way seen colloid and adenomatous goiter send projections posteriorly behind the esophagus or trachea.

Still lower down in the neck adenomata arising in the body of the thyroid not infrequently pass beneath the sterno-mastoid muscle and even

the great vessels, too, lay well external to the posterior border of that muscle.

As has been stated under the heading of allied accessory thyroid, adenomata may be so extruded from the outer border of the gland that they slip under the belly of the sterno-mastoid and appear in the posterior triangle of the neck as a discrete mass. Where a single adenoma is extruded in this way no adenomata existing within the thyroid itself, considerable difficulty may arise in determining the true character of such a mass. Of considerable assistance in a condition of this sort is the demonstration of limitation of motion in the mass solely in the outward direction, since in being extruded from the true gland there remain bands of fibrous tissue from the capsule still connecting it with the thyroid, and while the mass moves freely inward, upward and downward, it cannot be pushed beyond the limit of these fibrous bands in the outward direction, while tumors of non-thyroid origin, together with true accessory thyroids, have no limitation of motion in any one particular direction.

Symptoms due to vascular obstruction by pressure on the great vessels of the neck have been reported, but are unusual. We have many times seen the great vessels stretched out over large adenomatous masses which have pushed behind them, but have not seen symptoms indicating obstruction of the vessels in any way.

The group of misplaced goiters which frequently produce definite symptoms (chiefly respiratory difficulties) are those misplacements occurring below the origin of the trachea or esophagus, since their symptoms are due to pressure upon these two structures.

We have seen retrotracheal and retroesophageal goiter anywhere from the origin of the trachea and esophagus down to as low as was possible to reach with the fingers into the superior mediastinal cavity.

We have frequently seen tongues of colloid and adenomatous thyroid tissue sticking out from the posterior or inferior surface of the body of the thyroid, projecting behind the trachea well over to the opposite side, flattening that structure either laterally or from behind forward and producing respiratory stridor with marked difficulty in breathing. Likewise, we have seen adenomata both at the normal level of the thyroid and within the thorax slip behind

the trachea and esophagus and produce narrowing of those structures with marked difficulty in breathing and occasional difficulty in swallowing.

Descent of adenomata and tongues of colloid goiter into the superior mediastinum produces one of the most common and serious misplacements of all goiters. Exclusive of the aberrant goiters occurring in the superior mediastinum which are developmental defects and represent but an almost infinitesimal per cent. of intrathoracic goiters, all intrathoracic goiters are either adenomata, which originate in the normally placed thyroid and are pushed downward, or tongues of colloid goiter whose growth is guided downward by the anatomical structures about the thyroid. As we have often stated, when one considers these anatomical structures, it is most surprising that a great majority of thyroid enlargements do not progress downward into the superior mediastinum rather than anteriorly as they so commonly do.

To consider briefly anatomical factors tending to produce intrathoracic growth, it should be recalled that the thyroid ascends and descends with swallowing, moulding for enlargements, particularly of the lower pole, a bed always in the downward direction, that the lower pole of the thyroid rests unopposed by any structure, directly over the superior thoracic aperture, and, finally, that over its anterior surface run the sterno-thyroid, sterno-hyoid, omo-hyoid and sterno-cleido-mastoid muscles—with the exception of the omo-hyoid all attached to the sternum and tending to direct any enlargement of the inferior pole of the thyroid downward behind that bone and into the superior mediastinum. These are the mechanical factors which bring about misplacements of thyroid tissue into the thoracic cavity.

One should suspect intrathoracic goiter in any case with respiratory stridor with or without the presence, but particularly in the presence, of goiter. We wish particularly to call attention to the fact that we have had several cases of intrathoracic goiter and one case of an intrathoracic thyroid cyst in which attacks of respiratory obstruction amounting almost to suffocation were intermittent in character, the seizures being followed by considerable periods of very-free and comfortable breathing. This we believe to be due to temporary changes in the circulation of the adenomata with temporary increase in size of the tumor. A considerable number of

our cases of intrathoracic goiter have given histories of having been treated for asthma over long periods of time, although critical auscultation revealed the breathing as not of the typical asthmatic type.

Several have found it impossible to sleep on one side without producing respiratory difficulty, posture undoubtedly producing increased tracheal pressure. Not a few have complained of a feeling of pressure beneath the sternum and some of these cases in which the adenomata have insinuated themselves between the trachea and esophagus have complained of difficulty in swallowing. A few of these patients with intrathoracic goiter have presented swelling of the face due to obstruction to the large veins of the neck, but in our experience a majority of these patients have had malignant intrathoracic masses.

Enlargement of the veins over the upper part of the chest has occasionally occurred and is indicative, we believe, of an intrathoracic mass of large proportions. They are caused by obstruction of the thyroid veins entering the internal jugular causing a compensatory dilatation of the superficial thoracic veins. It has been possible to palpate the rounded top of a completely intrathoracic goiter in some of the cases and dulness over the upper chest has usually been present. Palpable deviation of the trachea from its median position as it enters the mediastinum has often led us to suspect intrathoracic location. The position of the trachea is one of the most valuable signs in the diagnosis of goiter of intrathoracic location. By far the majority of goiters of this type are adenomatous in character and originate most commonly in either the right or left lobe. If by chance they happen to originate in the isthmus, being perched upon the trachea, they tend to topple either to the right or to the left with the result, then, that deviation of the trachea either to the right or to the left is a very common, perhaps almost constant, factor in intrathoracic goiter. Since the position and defects in outline of this structure may be quite accurately portrayed by x-ray, this, then, is one of the very reliable diagnostic features of this condition.

Endo-tracheal examination often demonstrates denting, narrowing and displacement of that structure.

All goiters, the lower poles of which cannot

be palpated while the patient swallows with the chin hyper-extended, should be suspected of intrathoracic location, particularly in the presence of difficulty in swallowing or breathing.

We believe that intrathoracic goiters and those goiters tending to become intrathoracic should be removed early because they tend to produce tracheal obstruction, and that often late in life, because they tend to progress downward extensively into the mediastinum, making deep dissections in that direction necessary, and endangering patients' lives, following this procedure, by the not infrequent occurrence of mediastinitis and pulmonary complications.

Conclusions:

Misplaced goiters quite often produce symptoms by interfering with swallowing (lingual, retro-tracheal and retro-esophageal goiters), by interfering with breathing, encircling retro-tracheal and intrathoracic goiter. They require prompt and early surgical treatment.

A lesser group, particularly aberrant goiters, produce no symptoms but require differentiation from other lesions.

Still another group, retro-tracheal, retro-esophageal and intrathoracic goiters, require surgical removal as a protection against the production of pressure symptoms and lest their late removal entail measures of such magnitude as to endanger life.

SOME PRACTICAL POINTS IN THE DIAGNOSIS AND TREATMENT OF ACUTE PANCREATITIS*

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I wish to present to you for your consideration certain phases of the subject of acute pancreatitis. The general conception of this disease is that it is always an exceedingly acute and highly fatal malady. There is no question but that acute hemorrhagic or gangrenous pancreatitis is one of the most serious and destructive diseases which confronts the physician today and that the mortality is exceedingly high, nevertheless, I am convinced that there are many cases which are of a different type, much less destructive, cases which may be diagnosed and in which

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treatment will not only save the patient's life but restore him to perfect health.

It is not my purpose to enter into any detail regarding the etiology of acute pancreatitis except as it may influence the trend of thought in making a diagnosis and applying the proper treatment.

After spending considerable time in the study of the physiology of the gastro-intestinal tract, as well as the symptoms which gastro-intestinal diseases produced, I have come to some rather definite and logical conclusions. There is a definite symptom complex which one sees in many diseases. I should like to describe this complex since it will enlighten certain statements which I shall make later on. The complex is as follows: An individual, usually after taking food, experiences discomfort in the epigastrium. The onset of this discomfort may be immediately after taking food or not for an hour or two or even three. In the mildest form it is merely a discomfort or a sense of fulness in the epigastrium. At times belching relieves this discomfort for the time being, at other times the distress increases and gradually leads to pain. The pain may begin suddenly with but a few moments of distress. This pain may be of any degree of severity, often gripping in character and comes in waves of greater or lesser severity. Occasionally belching will mitigate the pain and the patient unconsciously swallows air to encourage belching. At other times vomiting occurs. In many instances this relieves the pain, at times suddenly and completely. If vomiting occurs some time after eating, the vomitus will be sour and biting to the tongue. If it occurs immediately after the taking of food, it will resemble the food eaten. At other times the discomfort will be a burning sensation and there is a tendency to acid pyrosis. In due course of time the distress or pain may pass away if not relieved by vomiting. Not infrequently this complex appears when the patient is hungry. Here it is often relieved by the taking of food or even by a drink of water. The mechanism of the production of this symptom complex, I shall discuss in another paper. We all know that it exists and you are all familiar with it. It is dyspepsia, either mild or severe. I have found this group of symptoms in gastric ulcer, duodenal ulcer, gall bladder disease, appendicitis, colon disease, pelvic disorders, pyelitis, incomplete intestinal obstruc-

tion, visceroptosis, syphilis, excessive cigarette smoking, heart disease, pulmonary tuberculosis, —and in pancreas disease. It is not characteristic of any specific disease but in practically every instance it means serious trouble somewhere. Truly in most instances certain facts in the history and variations in the grouping of the symptoms and associated symptoms with certain physical and laboratory findings will lead us to an anatomical diagnosis.

I call this syndrom to your attention since it may be of any degree of severity, it is found in a variety of diseases, that it is not pathognomic of any specific disease and that it is found in pancreatitis. The severity of the individual symptoms will be controlled more or less by the severity of the causative pathology.

I wish to call to your attention as a clinical and pathological entity, the type of acute pancreatitis that Bosanquet, Neurath, Moynihan, Körte and others have referred to as a complication of parotitis and acute infectious diseases. This type may be secondary to some intra-abdominal inflammatory process, such as an infected gall bladder or appendix. It is entirely possible that the primary infectious focus may be elsewhere in the body, such as in a tooth, tonsil, sinus or middle ear. I shall omit for the sake of clarity, acute hemorrhagic pancreatitis, and confine my remarks solely to this type of case.

The pancreas, a highly specialized parenchymatous organ, lies in close proximity to other organs which we know are frequently the seat of extensive and long continued pathological changes. It is still a mooted question how and why a gall bladder becomes infected. We do not know the cause of chronic gastric and duodenal ulcers. It has been my experience to see a number of duodenal ulcers follow in the wake of appendiceal infections. This has come to my attention so often that I can not mentally separate the two, and leads me to believe that there must be some distinct association between them. I believe that the infection travels from the appendix to the upper abdomen, to, under certain conditions produce an ulcer and, under other conditions, produce a pancreatitis. This may depend upon the type of organism or its virulence or its mode of dissemination. There seems to be no question but that chronic pancreatitis is today an accepted pathological entity and daily

there is added evidence that the infection is carried to the pancreas either by the way of the lymph or blood stream or by direct continuity or contiguity of tissue. Why, then, can not acute inflammatory reactions be expected?

The pathology of the pancreas has never been studied to the degree comparable to that of other organs. The reason for this is very apparent. I might say that never is there a section of the pancreas removed on the operating table for microscopic examination, although it has been demonstrated that this procedure carries but little danger. In the majority of laparotomies, the pancreas is not subjected to digital or visual exploration. After death there is a rapid digestion of the pancreas which so mars the histological picture that the pathologist fails to note any lesion which may be characteristic of antemortem changes. In those autopsies performed within an hour or two after death, it is possible to observe gross and microscopic changes which might indicate preexisting pathology. It is unnecessary to state that in the acute hemorrhagic type, the gross appearance at autopsy is characteristic.

Sir Mayo Robson uses a rather comprehensive classification of pancreatitis, but few pathologists seem to have observed the changes which his classification would indicate. Those cases of pancreatitis which occur as a complication of acute parotitis are undoubtedly of an acute embolic type. This condition has been referred to by Bosanquet, who reports eleven cases in 105 cases of parotitis and Neurath, who reports four cases. The only autopsy report seems to be the case reported by Lemoine and Lapasset. In this case the pancreas was swollen, edematous, congested and of a reddish gray color. Since the majority of these cases recover, the pathological picture is rarely observed, nevertheless, a rather vague symptom complex has been described which would indicate an involvement of the pancreas.

It is my firm conviction that a number of the acute gastric upsets which one encounters are due to acute pancreatitis. Furthermore, I believe that the pancreas is involved in a certain number of appendiceal and gall bladder infections. We have all seen cases of acute cholecystitis or acute appendicitis which have been operated upon, and subsequently developed symptoms of peritonitis, paralytic ileus and in spite of secondary drainage or other procedures, went

on to a fatal termination. Many of these cases are instances of acute pancreatitis. There is no question but that the appendix or gall bladder were diseased, even acutely diseased, but the more severe symptoms were produced by the pancreatic infection. There is, furthermore, no doubt in my mind but that the majority of these pancreatic inflammations subside within a few days as do those cases which complicate acute parotitis and for that reason are not comprehended. This is evidenced by the finding of healed areas of fat necrosis.

As an example of such a case, let me recite the following case record:

On July 9, 1923, I was asked to see a young man, 22 years of age, who complained of pain in the left upper abdomen. The pain was colicky in type but present most of the time. He also had nausea and vomiting with fever. The history was that he had had a number of such attacks before, which were attributed to indiscretions in diet. The night before I saw him, he had eaten some ice cream with what he thought was sour strawberry sauce, and he also had drunk some near beer. The following morning the pain and vomiting began. When I saw him his temperature was 100, pulse 106. General findings were negative except for tenderness in the left upper abdomen. The upper left rectus was distinctly more resistant than the rest of the abdomen. There was slight tenderness in the left lower abdomen, but no tenderness or rigidity in the right lower abdomen. The bowels had not moved for two days, so he was ordered an enema and a cathartic in the belief that he was suffering from food poisoning. As a result of the enema and cathartic, he had a number of stools and he felt better the next morning. In the afternoon the epigastric pains began again after eating a small quantity of ice cream. At 8 P. M. his temperature was 102, pulse 116. The pain was paroxysmal in type and somewhat to the left of the epigastrium. He also complained of pain in the right shoulder and chest. The lungs were found negative. He was very tender in the left upper abdomen and there was considerable upper left rectus rigidity. No tenderness nor rigidity in the right lower abdomen. The following day found him feeling badly. Temperature 101.4, pulse 116. There was considerable pain and distress in the abdomen with distension, and he vomited occasionally. He was quite tender and rigid over the left upper abdomen and an indefinite mass or muscle spasm could be felt, the patient still complained of the annoying pain in the right shoulder and neck. He was sent to the hospital. The leucocyte count was 21,500; 70 per cent. of which were polymorphonuclears. The urine was negative. I had Dr. Chas. A. Elliott see him in consultation and it was concluded that he probably had a surgical abdomen, but we delayed operation until morning, in the hope that a more definite diagnosis could be made. The follow-

ing morning the patient felt much better. The temperature was down to normal. Pulse 100 and there was practically no pain in the abdomen. The pain in the neck was still present. His sclerae were somewhat icteric. Dr. Elliott felt that it was an attack of infectious jaundice. From then on the symptoms rapidly disappeared, except that the leucocyte count stayed up around 12,000 to 14,000. About the second day in the hospital, a crop of herpes appeared over the right shoulder and neck, which was the cause of much discomfort. He left the hospital July 20, 1923, feeling well but weak. On July 30, 1923, he reentered the hospital for study. The physical findings were negative. His temperature was normal. The pulse running around 90. The leucocyte count was 14,200, of which 90 per cent. were polymorphonuclears. The urine was negative. The gastro-intestinal x-ray examination showed a fish hook type of stomach with no deformity and normal peristalsis. The duodenum was normal. The transverse colon showed some local spasm. There was ileo-cecal incompetency. An appendix shadow remained after emptying of the colon. It was decided to remove his appendix. On Aug. 7, 1923, I opened his abdomen and found the appendix twisted upon itself and much distended. There were also some adhesions about the ahead of the cecum. The appendix broke when a clamp was placed in position, the contents were sero-purulent. Fearing a possible contamination, I did not explore the upper abdomen. He made an unusually smooth recovery and left the hospital on Aug. 17, 1923, and since then has been in perfect health, has gained considerably in weight and has had no recurrences of his previous trouble.

I believe this to have been a comparatively mild case of acute pancreatitis, most likely secondary to an appendiceal infection. The less acute inflammation of the previous attacks subsiding only to have reinfection take place. The fact that he gained rapidly in weight after the operation is also significant, since we know that pancreatic disease leads to rapid wasting. This is especially characteristic of pancreo-lithiasis. The cases reported by Bosanquet and Neurath were pancreatitis complicated parotitis, are certainly duplicated in the case just mentioned.

Most of these cases, which are diagnosed as acute indigestion or dyspepsia, or the ones which are confused with some other acute intra-abdominal condition, or complicate acute parotitis, most likely fall into the group so well described by Sir Frederick Eve, as showing masses of polymorphonuclear leucocytes and areas of purulent infiltration around patches of necrosis. The organ is swollen and edematous. It would seem that the theory of Fitz, in which Korte agrees, is a most logical explanation for these acute cases

of pancreatitis. Fitz reasons that the process is always an infection and that inflammatory changes are always present from the first. One type of the disease may pass into another depending upon the virulence of the infection, the resistance of the patient, or upon the time in which surgical interference is instituted. Some may clear up entirely, others may go on to rapid and extensive destruction of the gland, with or without abscess formation, others may go on to the chronic state. My own experience in a relatively small number of cases would bear this out.

The symptoms which these cases present may vary considerably. It has been my experience to see two types in regard to the symptoms, those with an acute and abrupt onset and those with a relatively slow and mild onset. The cases with rapid destruction of the pancreatic tissue will be stricken down very suddenly and not infrequently go on to a rapid and fatal issue, while those with a relatively mild pathological process will respond much less strikingly and the symptoms will be less severe. In the cases with the abrupt onset, the patient is seized with a sudden severe pain in the epigastrium, and not at all infrequently there is considerable shock. The pulse will be rapid and the temperature subnormal. The pain has a tendency to radiate to the left upper abdomen into the region of the spleen or toward the left shoulder. Nausea is as a rule present and often it will be intense with persistent vomiting. The picture is not unlike that produced by a perforated ulcer, except in the physical findings. The pain has a tendency at times to come in waves of greater or lesser severity, often becoming very much less after vomiting, only to reappear in a few moments. This acute initiating syndrom has a tendency to subside within a variable period of time, at least, it may become much less severe. The temperature tends to rise, never high in this class of cases. An early leucocytosis is present. The pulse has a tendency to remain relatively high in comparison to the temperature. Cyanosis is frequently present and some observers have called especial attention to cyanosis of the abdominal wall. I have seen this in one case. In those cases with insidious onset, the symptoms are ushered in by dyspepsia, although not of exceptional severity. Many of these patients have experienced these symptoms many times before and attribute them to an indiscretion in diet. One rarely sees these

cases until twenty-four to forty-eight hours after the onset, some even longer. The persistent crampy pains, nausea and vomiting bring the patient to the physician. These patients present a typical acute or subacute dyspepsia, the individual symptoms will vary, depending upon the severity of the disease, the resistance of the patient and possibly other factors which are unknown to us. The pain often subsides until the patient becomes hungry or until he takes some food and then within a few minutes it recurs again, as was illustrated in the case just quoted. Upon physical examination, tenderness will be present in the upper abdomen, usually in the mid line and to the left. At times this will be quite pronounced. The upper abdomen is rigid, especially the left rectus, but rarely to the degree seen in a perforated ulcer or in the acute hemorrhagic type of pancreatitis. Constipation is present and soon tympany appears. In the severe cases, free fluid may be demonstrated in the peritoneal cavity within a few days or even earlier. If this becomes of some quantity and an aspiration is done, it will not infrequently be found to be bloody. The fluid may be only in the lesser peritoneal cavity. The symptoms may subside within three to six days, depending upon the reaction of the individual, or they may persist or become worse. In the later cases, dyspnoea is quite characteristic. Jaundice of varying degrees may be present in some cases. We have heard much about the pancreatic efficiency tests, such as the glucose tolerance, the Cammidge reaction, Loewi's test, the Sahli test, salol test and the Winternitz test. In most instances they are useless and can not be depended upon. Even in the hands of an expert chemist they yield misleading information. It is remarkable how little interference there is in the efficiency of both the external and the internal secretion in extensive disease of the pancreas.

As an example of the difficulty one encounters in the differential diagnosis of pancreatitis, let me mention an experience I had some ten years ago. Two men were admitted to my service at the Cook County hospital, entering within twenty-four hours of one another. The first, a man about fifty years of age with a dyspeptic history, had a sudden onset with pain in the upper abdomen, with nausea and vomiting. He had a fever with increased pulse rate and a leucocytosis. He was tender in the upper ab-

domen and there was considerable rigidity of the upper recti muscles. Rather extensive lung findings cautioned me in operating upon him at once, and I concluded to watch him for a few days. The symptoms gradually subsided until one night a few days after entering the hospital, he became suddenly acutely ill and died within a few hours. At autopsy, a perforated gastric ulcer with abscess was found. The second man, of approximately the same age, gave practically the same history and findings. In view of the findings of the first case, I decided to operate on this man at once. At operation, a pancreatic abscess was found. It was pointing between the stomach and the transverse colon. No ulcer was present. The abscess was drained and he made an uneventful recovery. Present day diagnostic skill might have detected the pathology.

The diagnosis of this condition in many instances is extremely difficult, since there are no pathognomic symptoms. A patient suffering from appendicitis or gall bladder disease may have repeated acute attacks, each representing an acute or a subacute exacerbation of the inflammatory process. The patient and the physician know this and attribute each attack to this present and underlying pathology; in many instances never examining nor questioning the patient. It is only when the symptoms are distinctly different that they attract the physician's attention. The change in the symptomology is very subtle and the presence of a complicating pancreatitis is not thought of. The patient may be operated upon with the diagnosis of appendicitis or cholecystitis and yet the diagnosis is not made. Recovery will depend upon the severity of the pancreatic involvement.

I should like to give in detail the history of a patient, recently under my care, to illustrate the associated pathology, symptomology and physical and laboratory findings in a case of pancreatitis. This history will illustrate the difficulty one may encounter in making a diagnosis even on the operating table, and the pertinent findings at operation. One must realize that many of these patients are critically ill and will not tolerate a long operation.

T. S., a white female, age 21, entered my service at Wesley Memorial Hospital, May 17, 1924, complaining of abdominal pain with vomiting, abdominal distension and loss of strength. Her history was as follows: She was always well during childhood. At the age of 15 she began having right lower abdominal

pain which was often accompanied by vomiting. These attacks would come on during the day and last for about half an hour, then disappear. They were more likely to appear about her menstrual time. For three weeks or more she would be free of pain. She had no urinary discomfort. The pain was always in the right lower abdomen. Her bowels as a rule were constipated. She was seen at odd times by a physician who gave her medicine, which did little good. She was married at the age of 19 and soon after this she was advised by a physician to have a cervical dilatation and curettage. This was done and in about three months she became pregnant. During her pregnancy she felt a trifle better. She had a normal delivery, then about five months later the pains recurred. At this time the pains in the right lower abdomen were more likely to come on after eating and she would vomit after almost every meal. She entered Cook County Hospital on March 19, 1924, at that time weighing about 185 pounds. I will not quote the history from that hospital except to say that the impression was that she was likely suffering from a gall bladder infection. A cystoscopic examination revealed a very small stone in the bladder and edoema about the right urethral orifice with pus coming from the right kidney. An operation was performed in which the right kidney was removed. It was noticed at the time of the operation that there was a great amount of serous exudate in the perirenal fat. The kidney was reported to have had multiple small subcapsular abscesses. The wound became infected and drained profusely, but the patient appeared better. About two weeks after the operation her abdomen became distended and she began having pains and vomiting again. Her temperature was erratic, ranging from 100 to 103. The pulse was always high, ranging from 120 to 140. She left the hospital against the advice of the physician, on April 19, 1924, with a temperature of 100 and a pulse of 140. She went to her home and her condition grew progressively worse up to the time she came under my observation, at Wesley Memorial Hospital. On examination, there was revealed a markedly distended abdomen which gave a fluid percussion wave. The dullness would shift with the moving of her body. She was very tender in the upper abdomen and due to the distension, no abdominal organs could be palpated. She looked much emaciated and was complaining bitterly of pain in the abdomen. She had to be propped up in bed so she could breathe freely. The heart tones were rapid but good quality. Her left chest showed an area of flatness extending up to the sixth rib. A needle was introduced and 16 ounces of a clear straw colored fluid was aspirated. This fluid was accidentally lost. The vaginal examination was negative. The leucocyte count was 8,900, red count was 3,960,000, Hb 70 per cent. The urine showed some albumin, no sugar and no casts. On the following day, 825 c.c. of dark bloody fluid was aspirated from her abdomen. This fluid had a sp. gr. of 1.016; benzidine test for blood was strongly positive. Albumin positive. The cell count was 8 per cent. polymorphonuclears, 92 per cent.

of lymphocytes. There were also many endothelial cells. On May 19, her W. B. C. was 16,000. On May 20, I withdrew 7,505 c.c. of bloody fluid from her abdomen. On examination, this fluid gave a sp. gr. of 1.017, bile not present, blood strongly present. Ten per cent. albumin, mucin negative, Sudan 111 for fat was negative. The cultures were negative. Following this aspiration she felt much relieved. During the next few days her temperature varied from normal to 101 and her pulse from 90 to 140. Though hungry, she could eat but little, on account of the cramps which the food produced, and what little she did eat she would vomit. The bowels were constipated but responded to enemas. An x-ray examination gave little information except for evidence of fluid in the left chest and subphrenic pressure from fluid. On May 23, under local anesthesia, I opened her abdomen through a right para-median incision. A large amount of dark bloody fluid escaped from the peritoneal cavity, and thick flakes and plaques of exudate were found in the right side of the abdomen. A thin plastic exudate covered the small bowel. The pelvic organs were normal to palpation. In a hurried examination, I could not find the appendix but there were no adhesions about the caecum. The omentum was rolled up in the upper abdomen and adherent to the anterior abdominal wall and stomach. After considerable difficulty, I freed the gall bladder, but it did not look especially involved in the inflammatory process. I could find no tubercles nor any organ which seemed the cause of the peritoneal irritation. Due to the critical condition of the patient and the unfavorable response to scopalamine, which was given before the operation, I was obliged to close the abdomen before my search was satisfactorily completed. Following the operation, she reacted favorably to forced fluids and the following day felt better. On May 27, her left chest was again aspirated. The fluid had a sp. gr. of 1.020, was alkaline in reaction. There were 17 per cent. polymorphonuclear, 77 per cent. lymphocytes, and 6 per cent. of transitional and endothelial cells. No tubercle bacilli were found, and a guinea pig inoculated, was found normal in six weeks. A culture showed staphylococci, which was probably a contamination. Her condition remained about the same, the pains after eating continued and she vomited most of the food eaten. She was losing weight and strength rapidly. On June 10, the kidney function test showed an output of 45 per cent. of the dye in five hours. On June 15, there appeared a swelling of the left foot and leg, with tenderness over the femoral vessels. A diagnosis of thrombo-phlebitis was made. This condition gradually subsided. She was put on sedative and supportive treatment which was varied from day to day to meet the demands, but she seemed to be losing daily. On June 18, 3,600 c.c. of dark greenish brown fluid was aspirated from her abdomen. A mass, which lay transversely just above the umbilicus, could now be palpated in the upper abdomen. This mass was very tender. An enlarged liver could also be felt. On July 10, another x-ray study was attempted. There was no obstruction in the gastro-

intestinal tract, but the curve of the duodenum was pushed to the right, and the jejunum downward, suggesting a mass about the pancreas. Repeated urine examinations showed no sugar. On July 14, an examination of the stool revealed some undigested food particles, no blood, some muscle fibres. There was partial digestion of starch by fecal amylase in dilution of 1 to 320 and complete digestion of starch in dilution of 1 feces to 10 water. A pancreatic efficiency meal could not be retained.

Due to the fact that the patient was growing weaker, I decided to again open her abdomen on July 22. She had been seen by at least six internists and the consensus of opinion was that the process was a tuberculous one, yet with the x-ray findings and the bloody fluid in the abdomen, I suspected a pancreatitis. Under local anesthesia, a left para-median incision was made, the parietal peritoneum was markedly thickened, and an encysted accumulation of greenish fluid was found about the level of the umbilicus. The upper wall of this cavity appeared to be the omentum, which was rolled up and adherent to the anterior abdominal wall. The omentum was carefully separated and a cheese-like nodule about the size of a plum was found in the adherent omentum. Dr. Fishback, our pathologist, who was present at the operation, examined the material and expressed the opinion that it was fat necrosis, which opinion he verified a few moments later in his laboratory. This confirmed the diagnosis of pancreatitis. Further separation of the omentum and bowel led to an enlarged pancreas. I could palpate the pancreas between my hands. It was irregular in contour, hard and about twice the normal size. I did not deem it wise to further traumatize the tissues in order to see the organ but contented myself by placing a large drainage tube into the pancreas through the transverse mesocolon. This was the easiest approach since the transverse colon was pulled upward and adherent to the stomach and anterior wall. The patient had a stormy post operative period, and drained profusely from the abdominal wound. Her condition, during the first week, was critical, then she began showing some gain. On Aug. 6, she insisted on being taken home, although the drainage tube was still in position and there was profuse drainage. She was attended by a nurse in her home and in a few days her condition showed marked improvement. I removed the drain about three weeks after operation and the wound promptly closed. When she left the hospital she weighed about 85 pounds. She gained rapidly in weight, was ravenously hungry and food caused her no distress. On May 5, 1925, she weighed 155 pounds. She had had no recurrence of pain, her bowels moved daily and she felt perfectly well. A sugar tolerance test was taken on this day. Her fasting blood sugar was .137. The urine negative to sugar. She was given 120 gms. of glucose and after one hour her blood sugar was .312, the urine contained sugar. After two hours, her blood sugar was .400, sugar in urine. After three hours, blood sugar .382, sugar in the urine. After four hours, blood sugar .276, sugar

in the urine. This would indicate that her internal pancreatic function was considerably impaired.

I offer this case record, as evidence in my contention, that acute suppurative pancreatitis can occur; that the diagnosis is extremely difficult, even on the operating table. The diagnostic essentials can be readily obtained by careful scrutiny of this history.

The treatment of acute pancreatitis can be considered from two angles—prophylactic and active. It is highly important that any inflammatory process, especially within the abdomen, be eradicated in order to prevent attacks of acute pancreatic inflammation, especially so, when mild attacks might indicate pancreatic involvement. Truly, here, the prevention of such a treacherous malady as acute pancreatitis is most desirable.

When the pancreas is once involved, the question arises as to when it should be explored. As previously stated, many of these cases recover, untreated and undiagnosed. If the abdomen should be opened for the removal of a diseased appendix or gall bladder and the pancreas is found swollen and edematous, I believe it good surgical judgment to place a drain down to it, either through the gastro-hepatic or gastro-colic omentum. This will drain the peripancreatic tissues and in case of rupture of the organ, prevent dissemination of the infection. If the pancreas is found much enlarged, especially boggy, or if an abscess is present, the drainage should be placed into the pancreas or abscess, as the case may be. Cofferdamming the pancreas with gauze or rubber tissue, at times, may materially assist in preventing the spread of the infection and provides more liberal drainage.

The conclusions which I should like to summarize for you are as follows:

1. Acute pancreatitis, either catarrhal or suppurative, is a pathological and clinical entity.
2. Acute pancreatitis is usually secondary to some inflammatory process, often intra-peritoneal. It may be a complication of acute parotitis or one of the acute infectious diseases.
3. Most of these cases recover without surgical interference, in so far as the pancreas is concerned.
4. The presence of pancreatitis should be suspected in many dyspeptics who have pain in the left upper abdomen or who may be suffering from appendicitis or cholecystitis.

5. In many instances the diagnosis of acute pancreatitis can only be made on the operating table, by observing the presence of fat necrosis and subsequently exploring the pancreas.

6. The pancreas should be explored more frequently when operating for cholecystitis or appendicitis or in those individuals who have complained of frequent attacks of acute dyspepsia.

7. Drainage of the pancreas or peripancreatic tissue in acute pancreatitis, will result in many recoveries.

DISCUSSION

Dr. Mather Pfeifferberger, Alton: Dr. Wolfer's paper was very complete and very interesting. It brought to my mind two cases of acute pancreatitis. One case I saw several years ago. The patient had severe pain and was intensely jaundiced. At operation gall-stones were found and also a carcinoma at the head of the pancreas. The patient recovered from the shock of the operation and did fairly well for the first two days, then suddenly developed this severe pain and vomiting and went on to a rapid death from acute vomiting. The other case is more recent. A diagnosis of gall-bladder disease was made before operation. On entering the abdomen I was somewhat surprised to find it contained a bloody fluid. On inspecting the head of the pancreas there were digested plaques over it and over the visceral peritoneum. After removal of the gall-bladder this patient went on to recovery. The subject was so new as far as I was concerned, that I was interested to hear Dr. Wolfer's presentation.

Dr. W. F. Grinstead, Cairo: I have been unusually interested in this paper and I have asked myself some questions as usual. What is the lesson we get from this paper? What have we gained to take back home with us for practical purposes? I have this impression that in a general way we are expected to diagnose an acute pancreatitis. In our every day work we will not be able to make a diagnosis without opening the abdomen. Another thought occurred to me as I listened to this paper and that is, we are all removing infected gall-bladders. If I had a pancreatitis in my own abdomen which was from an infected gall-bladder, which I believe most of them do follow, I would not like to have my gall-bladder removed. Many years ago Will Mayo operated on me for an infected gall-bladder and before I went on the table I said to him: "I will thank you to leave my gall-bladder; even though it is diseased, for I fear I will need it for drainage." I am glad he did for I am one of the healthiest men you will find in a week's hunt. The best treatment is drainage and the best way to drain is through the gall-bladder. Let us think a second time before we take out an infected gall-bladder when we have a pancreatitis.

Dr. W. R. Cubbins, Chicago: The only point I want to make is that when you have an acute pancreatitis with stone, an accumulation of fluid is not

uncommon. That accumulation of fluid is the result of infection. A bruit is very commonly heard over it. That bruit is accompanied by pulsation. I have seen two cases in which there was a distinct expansile pulsation in addition to the bruit. You could put your hand over it and see it expand. I opened two cases when I was not sure whether I was opening an aneurysm of the aorta or not. This expansile pulsation is distinct and comes from the aorta and from the numerous splenic and pancreatic vessels which go through it. You must make up your mind very definitely as to the presence or absence of one of these masses when you go into the abdomen, because that pulsation will be present. It has been present in two of my cases.

Dr. John A. Wolfer, Chicago (closing discussion): The type of case that I had in mind in presenting this paper is not the very acute hemorrhagic pancreatitis, nor have I in mind the chronic type in which I believe the treatment par excellence is drainage of the gall-bladder. I have in mind the subacute type of mild virulence. I believe many of these cases are overlooked and operated on for appendicitis, or gall-bladder disease and then go on and die. The plea I want to make is that when you find the abdomen full of bloody fluid you must think of pancreatitis. When you open an abdomen and find there is no torsion of one of the organs, think of the possibility of pancreatitis. Tuberculosis does not give a bloody fluid.

In regard to the treatment, I do not believe that drainage of the gall-bladder is going to help in acute pancreatitis because the ducts may be obstructed and will not drain the pancreas. If you put a drain through the gastro-colic omentum you drain the lesser peritoneal cavity of the more or less toxic fluid which is then not disseminated through the peritoneal cavity. When you find an acutely diseased pancreas, place a drain into the pancreas. I believe that in this way a large number of these cases will recover.

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NON-MALIGNANT OBSTRUCTION OF The PYLORUS IN THE AGED*

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The symptoms of obstruction of pylorus in the aged following ulcer of the duodenum.

In our experience duodenal ulcer is more than four times more common than gastric, and as

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cancer rarely ever follows duodenal ulcer (3 in 1,000 cases) it is fair to state that the mass, if found, is inflammatory or due to cicatrices in or near the pylorus.

SYMPTOMS

1. A history of alternating indigestion always exaggerated in early spring or fall.

2. Pain of either a burning or aching character, which occurs three or four hours after meals and is relieved by alkalies or by taking food.

3. When the obstruction becomes greater, vomiting of large amounts of mucus, with increased hydrochloric acid, will be the result.

4. Marked secondary anemia, increasing weakness, loss of weight, and a dilated stomach frequently associated with gastroparesis, is the rule.

5. Occasionally a mass in emaciated cases can be felt; this adds to the difficulty in excluding cancer.

The absence of cachexia, the constant presence of hydrochloric acid, the absence of lactic acid and blood in the stomach contents, is of great value.

The 15 minute study of the gastric content is to be advised, and while in carcinoma hydrochloric acid is present occasionally, it grows less, and the *Oppler Boas Bacillus*, if found, is valuable. In some cases the differentiation is very difficult, and only close and thorough working out will determine the condition.

It is fair to state that, in a few cases, the surgeon may be in doubt after opening the abdomen.

In reporting the four cases we do so because we feel that many lives have been lost on account of hesitancy to advise surgery, or rejected because of possible malignancy.

In our work we have seen many cases with symptoms of obstruction at the pylorus, many due to pylorospasm of nervous origin, controlled by alkalies or sedatives, like atropin and bromide, others due to extra gastric causes, often to adhesions from gall bladder, or chronic appendicitis, etc. These cases are at times very difficult to diagnose and require careful and thorough study. This is especially true during the menopause in women.

In the past two years we have had four patients past 60 years of age whose condition demanded operation because of obstruction at the pylorus, due to duodenal ulcer.

Pyloric obstruction is the most common com-

plication of duodenal ulcer, but pyloric obstruction in a patient of this age is usually looked on as due to cancer, for duodenal ulcer is regarded as a disease of younger people.

Duodenal ulcers occur with more than four times the frequency of gastric ulcers. Whether we accept or reject the theory that cancer of the stomach results from ulcer, it is well known that duodenal ulcers do not become malignant for cancer of the duodenum is very rare; 0.03% in hospital autopsies.

If the physical examination of the patient, the stomach contents or the X-ray findings, and especially the history, leads us to think that obstruction is due to duodenal ulcer, the outlook may not be so bad.

The histories of these four cases are of great interest to us for they tell the story of benign pyloric stenosis. Two of these cases were uncomplicated, one was complicated by gall bladder disease and gallstones, and one by sub-acute appendicitis. None had tetany.

Chronic ulcer causing obstruction is not featured by great local tenderness and pain. When these symptoms are present there is some inflammatory condition about the pylorus, and the pylorospasm may be relieved by alkalies and antispasmodic medication, and the patient encouraged to feel he is better.

Height of acidity is not a parallel of pain and the research of Porlow, Rehfuess, Corlison, Hamburger and Hardt show that with hyperperistalsis, pain occurs even when the acid is normal or low.

Even the giving of acid in a case of known open ulcer does not induce the typical pain.

Alkalinizing the stomach lessens the spasm and shortens the emptying time.

Obstruction at the outlet is followed by hyperperistalsis with hypertrophy of the whole active stomach wall.

By fluoroscope peristaltic waves may be seen twice as deep as normal and these continue until the stomach wears out or loses its tone.

Hypertrophy is associated according to Sippy, Rehfuess and others by hypersecretion of peptic juices and of mucus, and the stomach may contain 50 to 500 cc. of highly acid liquid.

Water brash, spitting of hot water, burning, splashing, is the common complaint.

At this stage the ulcer rarely bleeds. Munyon says with hemorrhage think of ulcer last.

Localized area of tenderness between 10th rib and naval is very constant, it may come and go with the inflammation of attacks.

Left to right peristaltic waves should be looked for. The patient has a long history of dyspepsia. His exacerbations come in Spring and Fall. November is mentioned in three of these histories.

The patient does not usually attribute his attacks to certain foods but says his stomach hurts worse when empty and food relieves him, but he tries diet and eliminates one food after another until he is down to skimmed milk with lime water.

They are constipated, and recognizing the constant association of pylorospasm with constipation, this brings up our second problem in differential diagnoses.

First, we must eliminate cancer in obstruction at the stomach outlet in old people.

Then we must think of the extra gastric diseases that may cause pylorospasm before we can diagnose duodenal ulcer. Constipation, appendicitis, gall bladder disease, cardio-vascular disease and neurosis may cause some of these symptoms, but with a good history, a careful physical examination, and the aid of the laboratory and x-ray, we may make a diagnosis and advise the necessary treatment.

All of the patients reported gave histories of long standing, compatible with duodenal ulcer. It was with difficulty, however, that this part of the story could be gotten, as the patient's more recent suffering overshadowed the early stages of the disease.

X-ray examination is of the greatest value, and if a filling defect on the stomach side can be excluded, helps to establish the diagnosis. It, together with a complete history, are the most valuable guides to follow in excluding malignancy.

However, even with this help there will remain cases that can only be diagnosed by exploration, and there are some cases where even at exploration the surgeon is still in doubt.

Case No. 2 is such a case. The fact, however, that she has regained her weight and is well at the end of two years, makes it fairly sure that the condition was benign.

Examination of the stomach contents has some value, but the main dependence must be placed in the history, and the x-ray examination.

Patients of this age, partially starved, are poor surgical risks, and some time and attention should be devoted to improving their general condition. A lack of fluids is the outstanding handicap, and this should be overcome by pushing fluids by mouth, giving small quantities of liquids at frequent intervals, the use of rectal drips hypodermoclysis and blood transfusion when indicated.

Gastric lavage once daily for a few days before operation serves to clear the stomach of food debris and also accustoms the patient to its use if it should be necessary after operation.

The use of sterile foods for 36 hours before operation will render the stomach sterile and lessen the chance of contaminating the field.

Elderly people are usually good subjects for local anesthesia, and a good part of the operation can be done under this, supplemented if necessary, by light gas-oxygen.

Where the stomach is large and atonic it is perhaps advisable to make the gastro enterostomy opening a little large, so that if the stomach regains its normal tone and size, there will be no shrinkage of the stoma.

Gastric lavage is indicated at the end of 24 hours if there is vomiting or dilatation of the stomach, and in this type of case will be frequently necessary.

* Gastric tetany, which sometimes occurs in patients with dilated stomachs, did not occur in this small series.

Careful study of elderly people with pyloric obstruction will show that in the majority of cases the obstruction is due to the end results of duodenal ulcer, and in these, gastro-enterostomy offers a rapid and permanent relief.

Case 1. G. E. M. Male. Married. Aged 60. Occupation, traveling salesman.

Admitted to the hospital November, 1923, complaining of gastric distress and vomiting. Patient had stomach trouble for many years. In early adult life he would have a gnawing pain in the stomach which he could relieve by eating a dry biscuit.

In 1911 he had recurrent attacks of this trouble. He said he was jaundiced and was said to have had bilious fever.

In 1917 present distress began with severe vomiting, the first evidence of vomiting, and he was unable to take food for four days. He has no pain, but feels as though the food did not pass out of his stomach and since 1917 he says the stomach fills with food three or four days and he becomes markedly distended and vomits for relief. He consulted Dr. J. A. Withers-

spoon in November, 1918, complaining of these symptoms and pain in the right side under the ribs. He was given Epsom salts and soda in small doses and an anti-spasmodic and was relieved of these occasional attacks until February, 1922.

He returns saying that for two or three months there has been less vomiting but a splashing in the bowels with no pain but soreness in the pit of the stomach.

Since February of this year, 1923, the condition has been progressively worse, vomiting more frequent and loss of 60 pounds in weight in the past 6 months. There is no blood in the stools. He does not allow constipation and there is no diarrhea.

He had typhoid in 1897, flux in 1900 and pneumonia in 1907.

Physical examination now showed a large man who had been fat but who had lost much weight.

The abdomen was soft, there were no hard tumors, the stomach could be seen first distended then rigid and showing active peristalsis slowly from left to right. There was no mass to be felt at the pylorus. The stomach contained fluid and would splash. Stomach contents showed no occult blood. Total acidity 90. Free H. C. L. 40. Lactic acid negative.

X-ray showed a large hypotonic stomach, duodenal deformity, large 6 and 20-hour retention.

At operation there was cicatricial scarring of the duodenum, with a high degree of obstruction. The appendix and gall bladder were normal.

A posterior gastro-enterostomy was done and the patient left the hospital in 2 weeks.

He is relieved of his symptoms and has regained a large amount of his lost weight.

Case 2. Mrs. D. H. W. Married. Housewife. Aged 60. Mother of three grown children. Entered the hospital June, 1922, complaining of burning in the stomach, vomiting for 6 weeks and great loss of weight.

There was no complaint of pain in the stomach.

She was first examined in 1918, at which time she complained of nervousness which she said had been present since menopause 10 years before. She also had attacks of loss of appetite and vomiting and at that time was taking only skimmed milk containing lime water. All other foods were vomited some hours later.

She says three years before she had a vomiting attack that lasted all night, and thirty years ago she had so-called neuralgia of the stomach.

Present history. Vomiting and burning in the stomach all the time and only relieved by opiate. She says her stomach feels like it had a coal of fire in it all the time. She has retained no food in 6 weeks, has lost a great deal of weight and had a large bed sore when she entered hospital.

Her former weight was 240 pounds. Physical examination: A very large woman, aged 60, great flaccid splashing abdomen with visible peristalsis from left to right, a mass in the upper right abdomen and localized tenderness on pressure.

Her stomach contents showed a large amount of

peptic juice-food particles and high total and free hydrochloric acid with no blood. X-ray shows enormous stomach with few peristaltic waves and great dilatation of the first portion of the duodenum.

There was no filling defect in the stomach, there was 6 and 24-hour retention of great size.

Diagnosis, obstruction of pylorus due to duodenal ulcer.

She was given a transfusion of 500 cc citrated blood.

Operation showed a mass at the pylorus adherent to the under surface of the liver and gall bladder, producing a high degree of obstruction. It was impossible to say whether this was cancer or ulcer, but resection was considered inadvisable under the circumstances, and a posterior gastro-enterostomy was done. Her convalescence was prolonged somewhat on account of her bed sore, but she left the hospital after a month and at present is in good health.

Case 3. Mr. T. B. T. Aged 68. Married. Commissary merchant. Entered hospital March 3, 1924, complaining of, 1, pain in upper abdomen before meals, 2, gas in the stomach, and 3, tendency in upper abdomen.

He had consulted us in July, 1923, having pain near cardiac end of the stomach. He had weakness and loss of 40 lbs. weight in 2 years.

The pain in the region of the heart was exaggerated by exercise and relieved by rest.

He had vertigo. His blood pressure was 130/90. He was always constipated. He was thought to have angina. Nine months later he returned and gave this history:

His first trouble started some 6 years ago. He began having a dull pain in the pit of his stomach 3 or 4 hours following meals.

He was always relieved by the taking of food. He did not consult a physician for some time. Since onset he has been going to Red Springs during the summer, which always relieved him.

He had some rheumatism and all teeth were extracted two years ago. Since the beginning of this trouble he has been steadily getting worse. He has a great deal of gas on the stomach. The pain seems to be more regular than ever before and digestion is poor.

He had flu last January and sore throat and coughed some since.

X-ray showed hypertonic stomach, some dilatation, duodenal deformity, 6-hour retention and evidence of stasis at the ileocecal valve.

Duodenal ulcer and pyloric obstruction was diagnosed.

Operation. Notes, March, 1924. Stomach normal. Ulcer first portion of duodenum could be felt and seen. Gall bladder negative as was also the common duct. Gastro-enterostomy was done. Appendectomy—appendix was difficult to deliver on account of dense adhesions.

Recovery.

Comment. Old chronic obstructive ulcers do not cause so much pain. This old gentleman had appendicitis also and this confused the picture.

Though his obstruction had been going on some years

it was not so complete as to cause great dilatation of his stomach or stasis.

Case 4. Mr. G. H. B. Aged 64. Married. Sheriff. Was first examined March, 1924, complaining of burning in pit of stomach, spitting up hot water. Worse about 9 or 10 o'clock at night with great deal of gas. Taking food relieves him.

His present attack started in November, 1923, when he says he was poisoned by eating fish and was in bed for a month. During the previous summer he had canvassed his county, eating different foods at different places every day and vomiting for relief every night.

Three years before this he was operated on for left inguinal hernia, which was supposed to have caused his indigestion and he was relieved for a while, but in a few weeks a large hernia occurred on the other side and the indigestion returned.

Hospital history: For past five months patient has suffered with almost daily vomiting. This occurs just after midnight. The stomach will seem to be full, burning with gas and heavy. This trouble comes on rather suddenly and patient thought it was due to dietary indiscretion, but when it persisted for over a week he became concerned. He has taken soda water to relieve himself and it seemed to help, but nothing gave any permanent benefit. In five months he vomits regularly, skipping only two or three days. He sometimes sticks his finger down his throat to provoke vomiting.

X-ray showed large dilated stomach, increased peristaltic waves, stomach pulled to the right, no duodenal cap was seen.

There is an indentation on the right side of the pylorus which we take to be pressure from the gall bladder. No gall stones are shown on the plate. There is a large six hour retention with typical blunting of the pylorus. This is shown well in one of the films.

Operation. Notes, April 1, 1924:

Right rectus incision, showing scar tissue in first portion of the duodenum producing a high degree of obstruction. Gastro-enterostomy. Gall bladder was very large and contained large stones lodged in the cystic duct, gall bladder tense and apparently contained fluid.

Gall bladder aspirated and purulent material obtained, large stone released and several smaller ones, and tube introduced into gall bladder.

Patient is recovering.

DIAGNOSIS OF ASTHMA*

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The frequency with which patients appear for examination with a history of attacks of dyspnea and cough, either chronic or paroxysmal, or in combination, brings up the question of asthma. Have they true bronchial asthma or are their

respiratory symptoms a secondary manifestation of some other pathologic conditions which is less apparent to them? It is so frequently found that errors have been made in the interpretation of symptoms and signs exhibited by this class of patient that a review of the more common errors and difficulties arising in diagnosis might be of interest.

It is not infrequent to find true bronchial asthma in tuberculosis sanitaria with an erroneous diagnosis of chronic pulmonary tuberculosis. Many have been subjected to repeated nasal surgery with the idea that the nose is the seat of their dyspnea.

In order to differentiate from other conditions we must assume some criterion upon which to separate the true asthmatic from the symptomatic one. For this purpose we will define bronchial asthma as an acute or sub-acute exacerbation of dyspnea and cough occurring in one more or less dyspneic and wheezy all or part of the time. The attacks of dyspnea are mainly expiratory but may be both expiratory and inspiratory. The pulse is not greatly elevated, temperature is normal or only slightly elevated, and some degree of cyanosis is usually present. Hypodermic administration of adrenalin usually affords temporary relief.

The respiratory symptoms, especially the dyspnea, of early cardiac decompensation are frequently confused with asthma and of these cases mitral stenosis of low grade seems to be most often the cause of the decompensation. The early passive congestion of the lungs, due to interference in the pulmonary circulation, with its resultant cyanosis, dyspnea and cough, occur on slight exertion, or upon reclining, without any other apparent sign of cardiac decompensation. The physical findings in the chest, mainly auscultatory, resulting from the passive congestion and inevitable associated bronchitis, are often similar to those of asthma. However, in this type there are usually moist rales at the basis of the lungs posteriorly not found in asthma, and a careful study of the heart will always reveal transverse enlargement, usually to the right, a globular dullness of the left auricular area, possibly a presystolic thrill over the left ventricle, and always a presystolic rumble over a small area above the apex, not transmitted in any direction and easily overlooked or passed as merely an impure first tone. Signs of de-

*Read at meeting of the Illinois State Medical Society at Quincy, May 21, 1925.

compensation in the greater circulation, as edema of the ankles, may be entirely absent.

Primary myocarditis, without organic valvular lesions, during early decompensation with slight or no secondary mitral regurgitation, sometimes produces dyspnea and physical signs in the chest simulating asthma as a result of passive pulmonary congestion and bronchitis. If it does, edema or anasarca of other parts will probably be found. The area of cardiac dullness is usually widened, especially to the left, and there are irregularities in the rate and rhythm, and often inequality of systolic contractions. The tones are soft and muffled. We must, however, bear in mind that long standing asthma with its secondary emphysema eventually produces myocardial weakening and decompensation, and that the two may co-exist. It is nevertheless important, mainly through careful history-taking, to determine the pre-existence of the asthma, for the relief of it is helpful in reducing the strain on the heart.

Nephritis, acute or sub-acute in type, but more frequently of the chronic interstitial variety, may cause paroxysmal dyspnea suggestive of asthma. In the former type urinalysis shows abundant albumin and granular, pus, or blood casts, making the differentiation easy; but in the interstitial type, with little or no albuminuria, a few hyaline casts and low specific gravity are of importance, especially if there is the usual accompanying hypertension. The physical signs in the chest are usually less marked in proportion to the discomfort of the patient in nephritic dyspnea than they are in asthma.

In cases of long standing renal disease and hypertension, cardiac decompensation, usually on account of myocarditis, eventually results, and the nocturnal dyspnea and whistling rales throughout the chest may closely simulate asthma, but the physical findings above described and urinalysis will always serve to differentiate.

Emphysema, either of the rare primary variety, or the type acquired through occupation, whooping cough, or chronic bronchitis, usually produces cyanosis and dyspnea on slight exertion, and, less frequently, attacks of dyspnea and cough. The large chest, out of all proportion to the rest of the body, the increased anterior-posterior diameter, the expiratory fixation, abdominal breathing, and the long, soft, expiratory murmur on auscultation are all characteristic of

the emphysematous chest, but we must bear in mind that emphysema inevitably develops as a complication of bronchial asthma also, and eventually leads to cardiac decompensation, especially of the right heart. This has been previously considered under heart differentiation. The history of the asthma attacks, occurring as a first symptom with periods of freedom from dyspnea and cyanosis between attacks, is all important in diagnosis, the physical signs being of little value when cardiac decompensation appears.

Chronic bronchitis, regardless of etiology, produces permanent structural changes in the bronchial walls, and is often accompanied by attacks of dyspnea and produces physical signs not unlike those of bronchial asthma. There is still a division of opinion, whether these cases are to be classed as true bronchial asthma. A history is usually given of repeated attacks of acute bronchitis followed, at first, by complete recovery, but later by incomplete recovery and more or less cough and expectoration between attacks; or whooping cough or measles may date the onset of the chronic cough. After a variable time dyspnea and wheezing occur on exertion, or nocturnal, and these symptoms gradually increase in severity until the question of true bronchial asthma arises. In many the dyspnea is inspiratory and fluoroscopy of the chest indicates no distention of the lungs or fixation of the diaphragm, but in some it is expiratory or combined, as in true asthma. Most of the exacerbations occur during the changeable or winter seasons and are initiated by fresh colds or acute exacerbations of the chronic bronchitis. Are these attacks of dyspnea due to spasm of the bronchial musculature, and therefore with our present conception of the mechanism of asthma, real asthma; or, are they due to inflammatory occlusion of bronchioles already narrowed by chronic thickening? This very important point will be discussed later on.

Tuberculosis with frank clinical lesions rarely, if ever, should be confused with asthma, but occasionally chronic pulmonary tuberculosis and bronchial asthma co-exist, and only by a study of the sputum and by careful radiography can we be sure. This should be done as routine in all cases. Where error is made in diagnosis of this combination chronic bronchitis is most frequently considered the cause.

Other conditions, really producing tracheal or large bronchial obstruction, such as laryngeal polypi, aortic aneurysms, enlarged tracheal or tracheo-bronchial lymph glands, and mediastinal tumors may produce a nocturnal or effort dyspnea, but the usual auscultatory signs of asthma are absent. The same is true of the panting seen in hysteria.

It is possible, therefore, by careful history and physical and laboratory examination to separate the true asthmatic from the symptomatic one, due to other diseases above mentioned, with the exception of the bronchitis group, which will be discussed later. Symptomatic asthma is usually relieved, partially or entirely, by management of the underlying cause, but the true asthma must be further studied, if anything, more than temporary relief, is to be offered.

In the light of our present knowledge of the varied causes of asthma, and of allergy as applied to the mechanism of asthmatic paroxysms, it is possible in most instances to produce some degree of relief that is more permanent than that afforded by the time-honored adrenalin, atropin, potassium iodide, asthma powders, medicated cigarettes, etc.

For reasons not at present known, certain individuals become sensitized to some protein, that is, in these individuals further introduction of this protein into the body in sufficient dosage causes an internal disturbance known as allergy and, in asthmatics, outwardly expressed as an attack or exacerbation of bronchial asthma. How and why this sensitization arises in only certain individuals cannot at present be satisfactorily explained.

For purposes of the study of asthma, the proteins capable of producing these disturbances may be roughly divided into four groups, viz.: pollen protein, animal emanations, food proteins and bacterial proteins. The results with pollen proteins are most striking and will be discussed first.

Those sensitive to pollen protein usually give a history of asthma occurring each year, beginning at a fairly constant time and lasting a constant period, and often of preceding or co-existing hay fever. Many have, by experiment, found that ocean voyages or temporary migration to different climates have averted their attacks. It is therefore apparent in this group that season and location is important in the pro-

duction of their disease. A few occur late in June or early in July, when the grasses and trees pollinate; a larger number occur in late August or early September when rag weed, golden rod and other weeds and trees pollinate. The time of occurrence gives a clue to the pollens to be considered and I have found most of the early type to be due to orchard grass, June grass, timothy or red top; and most of the later variety to be due to rag weed.

The tests for sensitization may be carried out by making small scarifications, as is done for smallpox vaccination, on the ventral aspect of the arm and forearm or on the thigh where the skin is thin and free from hair, and putting a drop of each of the solution of protein to be tested on a scarification, leaving one as a control. Within ten to forty minutes, usually about fifteen minutes, a blanched wheal with pseudopod-like projections appears and gradually enlarges to the size of a dime or quarter on one or more of the scarifications and represents sensitization of the patient to those proteins. Usually several react, there being one or two large major ones and several minor reactions, caused by pollens of grasses, weeds or trees, belonging to the same botanical family as the ones producing the major reactions. Desensitization may be accomplished by hypodermic administration of proper dosage of the causative proteins at proper intervals and complete or in some cases partial freedom from asthma can be assured for the coming season in most instances.

In the next group, animal emanation, horse dandruff, chicken feathers, and cat fur seem the most common offenders. The history is sometimes clear and directs one's attention to the proper protein or group, but it is also often very misleading. For example, a young lady developed moderate asthma attacks, always in the daytime, regardless of season or climate, and thought it usually occurred when outdoors among the trees regardless of the stage of foliage. Upon further questioning, however, it was brought out that when among the trees she was horseback riding, and at no other time had close contact with horses. Cutaneous tests proved her non-sensitive to tree or grass pollens but moderately sensitive to horse dandruff and desensitization caused complete relief upon further rides.

In another case severe asthma attacks developed in a young housewife about one year

after marriage. No etiology could be brought out by history until it finally occurred to the patient that the attacks seemed to occur during the periods when she had company. Further questioning brought out the fact that her usual bed was given up to the visitors and the day bed occupied by the patient. A combination of feathers was used in this bed. Tests showed the patient sensitive to chicken feathers and desensitization has caused complete relief now for a period of two years.

It has been my practice therefore to test all for sensitization to these proteins because of the frequent misleading history.

The study of food protein sensitization as a cause of asthma is even more discouraging unless a fair history or a careful study of the diet in relation to the attacks gives some clue to the etiological protein. Otherwise one is confronted with the task of systematically testing out all the food proteins now available, of which there is a vast number, causing a hardship to the patient with no fair assurance of success. It is, however, in my opinion indicated in severe asthma where all other causes than foods have been eliminated.

The study of the asthma associated with colds and chronic bronchitis, which makes up a fair proportion of cases seen, is very interesting. Some may be shown to be allergic in type, presumably resulting from death of a large number of bacteria during acute exacerbations of their infections, the bacterial protein thus loosed entering the circulation and causing the allergic reaction expressed as asthma. The preparation of a vaccine from the washed sputum in these cases makes a protein solution available for desensitization, and in many instances there is reduction or relief of the asthma when this is done. But some of these cases are probably not based on allergic bronchial spasm but are due to occlusion of previously and permanently narrowed tubules, resulting from chronic inflammatory changes; at any rate, they cannot be shown to be spasmodic by positive skin sensitization tests. Nevertheless in these also the vaccine is of value, because, aside from its desensitizing properties, it oftentimes results in improvement of the bronchitis, decrease of the sputum and general improvement in health, overwhelming the bronchial flora to a varied degree in the same manner as vaccines act when used for other purposes. That some of these are allergic may be

judged from the occasional asthmatic reaction resulting from too large an initial dose of vaccine.

Other foci about the respiratory tract as sinusitis, ethmoiditis, etc., must be investigated and drained or removed as possible sources of bacterial protein.

When the true asthmatic has been differentiated from conditions simulating it, secondary to other pathology, and when we have through this general scheme made an effort to arrive at a diagnosis as to etiology, either on the basis of protein sensitization or chronic bronchitis, there will still remain a small group which seems not to fit anywhere as regards specific treatment; and it is this group that will furnish the material for further investigation of the etiological diagnosis of asthma.

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THE PRODUCTION OF URINARY CALCULI BY THE DEVITALIZATION AND INFECTION OF TEETH IN DOGS WITH STREPTOCOCCI FROM CASES OF NEPHROLITHIASIS—SUMMARY OF RESULTS*

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Infection is regarded as a common cause of calcification in tissues, but the hypothesis that certain microorganisms which infect many may have peculiar power in this respect is not generally believed. It was suggested to me during experiments with a streptococcus isolated from an excised piece of muscle in a case of calcifying myositis. This strain was peculiar, in comparison with strains of streptococci from the more common forms of myositis, in that it not only produced marked lesions in the muscles of rabbits when injected intravenously, but also produced very early precipitation of calcium salts in the lesions¹. The etiologic relationship of streptococci to the formation of gallstones was demonstrated by me a number of years ago in experimental cholecystitis produced by intravenous injection of streptococci from cholecystitis in man².

During the preparation of immune serums, in

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which repeated intravenous injections of dead streptococci having different localizing powers were made, numerous concretions were found at necropsy in the calices and substance of the kidneys of the sheep injected with a pyelonephritis strain; no other lesions were found.

In a series of experiments in which nephritis followed the devitalization and infection of teeth in dogs with a staphylococcus from a case of nephritis, one dog developed pyelitis and cystitis, with marked calcareous deposits in the adherent exudate in the pelvis of the kidney and in the bladder³.

On the basis of these observations it was believed to be worth while to attempt to produce urinary calculi in dogs by creating foci of infection around the teeth with organisms isolated from the urine and foci of infection in persons suffering from nephrolithiasis, thus simulating the conditions so often present in patients. A large number of experiments were performed, in collaboration with Dr. Meisser, and I wish here briefly to summarize the results obtained.

RESULTS IN THE NINE CASES STUDIED

Owing to the numerous instances of beneficial effects in other diseases from the removal of foci of infection and to the results obtained in our first case, the tonsils were removed and infected teeth extracted in the other patients studied. The extracted teeth and extirpated tonsils afforded us opportunity to obtain proper cultures for experimental studies.

All of the patients studied were men. Their ages ranged from thirty-three to sixty years. All were suffering from nephrolithiasis, had had typical renal attacks of from three to twenty years' duration, and the interval from the last attack to the time of our study ranged from two weeks to nine months. A history of acute infection which appeared to be a factor in the genesis of the urinary symptoms was obtained from three of the patients. Cultures were made from the urine of five of the patients. From three of these urines streptococci, usually with staphylococci and colon bacilli, were isolated. Foci of infection were found in the teeth or tonsils of all. The number of pulpless teeth showing periapical infection varied from one to seven in each patient. Most of the infected teeth had been rendered pulpless many years prior to our study. The teeth of dogs were infected with cultures from

teeth, tonsils, and urine of one patient, from teeth and tonsils of two, from infected teeth only of four, and from tonsils only of two.

Twenty of the thirty-four dogs used in the experiments developed calculi and other lesions in the urinary tract, readily visible at necropsy. Twenty-six (75 per cent.) revealed microscopic calculi in the medulla of the kidney, and twenty had localized areas of active cellular infiltration in the medulla. Thirty dogs (87 per cent.) revealed either calculi or localized lesions in the medulla, or both. Streptococci or diplococci were demonstrated in, or adjacent to, lesions in the kidney of sixteen dogs, all of which showed active focal lesions on microscopic examination. Positive results were obtained in eight of the nine cases. In the negative case the teeth of only one dog were infected.

The duration of the experiments yielding positive results was one month in two of the dogs, from two to three months in eight, from three to six months in twelve, from seven to eight months in six, and ten months in two. The duration of the four negative experiments was only eleven, fifteen, thirty and forty-five days, respectively, because of death from distemper.

The number of dogs whose teeth were infected with cultures from the patients varied from one to twelve in each case. In two cases only one dog was used, in three cases, two dogs, in two cases, four dogs, in one case, six dogs, and in one case twelve dogs were used. The teeth of eighteen dogs were inoculated with cultures obtained from infected teeth, six with cultures from tonsils, and ten with cultures from the urine. Twenty of the dogs were anesthetized and fourteen died of intercurrent infection or as the result of the induced focal infection.

In nearly all instances cultures from the pus found in the pulp chambers, which showed many streptococci and leukocytes in smears, yielded streptococci resembling those inoculated, usually with small gram-negative bacilli. This was true alike of the three cuspids infected at the time of the operation and the one cuspid in each dog which was merely devitalized and sealed in a sterile manner.

The localizing power in rabbits of the streptococcus from the teeth was tested at the end of each experiment in sixteen of the thirty-four dogs.

Forty-two rabbits were injected. Focal lesions

were found in the medulla of the kidneys in twenty-one. Lesions in other organs were rarely obtained. Five had lesions in the periosteum opposite the roots of the incisors, three in skeletal muscles, three in the myocardium, two in joints, one in the gallbladder, and one had ulcer of the stomach.

Of the sixteen dogs from whose teeth cultures were made and injected intravenously into rabbits, ten, representing four cases, showed microscopic evidence of active focal lesions in the medulla of the kidney. Of the twenty-eight rabbits injected, twenty-one developed focal lesions in the medulla, and seven showed no changes. The remaining six dogs, representing four cases, showed no microscopic evidence of active lesions in the kidney, and all of the fourteen rabbits injected remained free from lesions in the kidneys.

Streptococci resembling those inoculated into the teeth were isolated from the urine at necropsy in fifteen of the twenty-three dogs in which cultures were made, from the kidney in seven of twenty-seven dogs, and from renal calculi in three of six dogs. The positive cultures from the urinary tract were all obtained from dogs whose kidneys showed active lesions on microscopic examination. The primary cultures of the streptococcus from the urine, kidney, or calculi of five dogs, representing three cases, were injected intravenously into sixteen rabbits. Of these eleven revealed localized lesions in the medulla of the kidneys, while five remained free from lesions.

The staphylococcus which was isolated in small numbers from the urine of our first patient, and from several stones and some of the teeth of the dogs, always failed to localize in the kidney or intravenous injection into rabbits and was not demonstrable in the areas showing beginning stone formation.

The strains of streptococci from the different cases with which positive results were obtained were much alike. All produced small, rather dry, nonadherent green colonies on blood-agar plates; all were of a low grade of virulence, and produced marked acidity in glucose broth.

The lesions in the kidneys of rabbits following intravenous injection were similar to the active lesions in the dogs. They were not numerous, and not necrotic, and were nearly always small and limited to the medulla. Those following the injection of the urine cultures were the more pronounced. By placing thin pieces of fresh tis-

sues immediately into solutions of neutral red, and by treating sections of the fixed tissues with nitrate of silver, it was found that deposition of lime salts occurred in lesions in the kidney, and in a few instances in lesions of the myocardium, as early as forty-eight hours after injection. Microscopic examination of the kidneys of the dogs showed three main types of lesions, sharply circumscribed areas of leukocytic infiltration between the collecting tubules, more diffuse areas of round-cell infiltration, and deposits of exalate crystals or amorphous lime salts, with little or no surrounding cellular infiltration. The number of bacteria in the lesions was always small; long search was often necessary for their demonstration. They were never found in normal tissue remote from lesions, nor in the kidneys of ten dogs in which localized areas of cellular infiltration were absent and in which the areas of lime deposits had healed. Sections of other viscera in some of the dogs that had stones were uniformly free from changes.

CONTROL EXPERIMENTS

Besides the twelve control dogs in our first case, we have studied the results in twenty-three additional dogs whose teeth were infected with cultures of streptococci or staphylococci from sources other than nephrolithiasis, and which were kept under the same conditions with regard to diet, and so forth, as those inoculated with the nephrolithiasis strains. Areas of rarefaction around the apices of the infected teeth from which the inoculated organisms were recovered were found in most instances. Five of the thirty-five animals revealed calculi and lesions of the medulla of the kidneys. The calculi were small and situated chiefly in the medulla or calices. Sections revealed small localized areas of infiltration and areas of lime deposits in the medulla, with little or no cellular infiltration, in which diplococci were demonstrated. Since the organisms inoculated into the teeth of these dogs had no affinity for the kidney, it was thought that the small calculi found in this series were of spontaneous origin, and that calculi in dogs may also be due to infection. Through the kindness of Dr. Hardenbergh we have had opportunity to test this hypothesis experimentally and are able to include, as a further check on our experiments, the result of this routine examination of dogs kept under similar conditions during the course

of our study. Of 433 dogs examined, fifty (11 per cent.) had urinary calculi. In most of these the calculi were small, flat and loosely adherent to the mucous membrane of the calices. The gums around the teeth of many showed varying degrees of infection. Urinary calculi were not found at necropsies performed by one of us on 581 dogs over a period of ten years. According to Hutrya and Marek⁴, calculi were found in only twelve (0.38 per cent.) of 3,301 dogs examined at the Dresden Pathological Institute. The experience of others indicates a general low incidence of this condition in normal dogs.

The experiments to determine the etiology of spontaneous calculi in dogs consisted of culturing the medulla of the kidneys containing calculi, and the washed and crushed stones, of testing the localizing power of freshly isolated cultures on intravenous injection in rabbits, and of inoculating the teeth of dogs with the organisms isolated from the induced lesions in the kidneys of rabbits. Pure cultures of streptococci were isolated from the medulla of the kidney or from the stones of each of five dogs showing spontaneous calculi. One of these produced hemolytic colonies on blood-agar plates, one, indifferent colonies, and three, green colonies. The indifferent strain was injected into four rabbits, and one of the green-producing strains into one rabbit. All remained well and free from lesions, and the strains were lost. One of the remaining green-producing strains produced lesions of the medulla of the kidneys in two rabbits injected. The primary culture of the third green-producing strain isolated from the stone of one of these dogs produced lesions in the medulla in three of four rabbits, and one of two dogs injected intravenously. The strain from one of the positive rabbits produced lesions in the medulla of the kidneys of two rabbits, and the strain from the positive dog, in the one rabbit injected. Cultures from the kidneys showing lesions were positive in every instance, and negative where no lesions were found. Cultures from the blood were negative in all. The strain isolated from the kidney of this dog, culturally and morphologically identical to the one isolated from the stones, was without effect in four rabbits injected. No lesions were found, and cultures from the kidneys and blood were sterile.

The hemolytic streptococcus in the third subculture was injected intravenously into two rab-

bits. Both developed lesions in the medulla of the kidneys, and cultures of the urine and kidneys yielded pure growths of the streptococcus injected. This strain produced lesions in all of three rabbits injected. The culture from the kidney of one of these was then injected into two rabbits. Both died, and marked lesions of the kidneys were found at necropsy. The culture from the kidney of one of these in turn was inoculated into the teeth of two dogs. They lost weight, but seemed well six months later, when they were anesthetized. Both had developed calculi in each kidney, demonstrable by the roentgen ray. Sections revealed localized areas of lime deposits and circumscribed areas of relatively slight round-cell infiltration in the medulla, in which diplococci were demonstrable. The streptococcus inoculated into the teeth was isolated from the teeth and from the kidney stones and urine in pure culture at the end of the experiments. The cultures from the stones and kidneys produced lesions in the medulla of the kidney in all of seven rabbits injected intravenously, from which the streptococcus was isolated in pure culture in every instance. The blood was sterile in six and contained the organism in one.

Four control dogs placed under identical conditions during the course of the experiment were found free from calculi.

Since the work on lithiasis was done, the effect that the ulcer streptococcus might have when inoculated into the teeth of dogs was studied by Dr. Meisser in a large number of dogs which in other respects were kept under similar conditions. In some of these, ulcer of the stomach was found, which was proved to be due to the streptococci inoculated into the teeth, but in no instance were renal calculi observed.

SUMMARY AND DISCUSSION

The streptococcus inoculated into the pulp canals was isolated from the infected material in the root canals or the periapical tissues of the pulpless teeth at the end of each experiment. This was true alike of the three cuspid which were devitalized and infected at the beginning of the experiment and of the cuspid which was devitalized but not infected. In some instances secondary infection by a small gram-negative bacillus, and more rarely by a staphylococcus, had occurred. The streptococci in the teeth in which secondary infection had not occurred were espe-

cially numerous at the periphery of well formed granulomas and where the bone was being absorbed. The findings around the teeth were similar to those following the devitalization of teeth in persons, as practiced in dentistry: the infected teeth became discolored, but remained firmly in place in the alveolar sockets; the infection caused rarefaction and absorption of bone in the periapical region without swelling, pain, or tenderness, and the cellular infiltration and distribution of the bacteria of well formed granulomas were also similar⁵. The experimentally produced chronic foci, aside from being the source of the streptococcus which tended to localize electively in the urinary tract, appeared to have a general deleterious effect. Some of the dogs lost markedly in weight and became more susceptible to intercurrent infection. This was particularly true in those in which unusually large areas of infection around the teeth had developed and in which the renal calculi were large. This finding supports the interpretation by Osborne and Mendel⁶ of the infectious origin of urinary calculi observed in rats (eighty-one of 857) fed on a diet deficient in fat-soluble vitamins.

It is not clear why the four dogs infected with the arthritis streptococci failed to develop arthritis. Active infection around the teeth was found in all. The streptococcus from the pulp chamber in one of the dogs inoculated four months previously had retained its affinity for the joints of rabbits on intravenous injection. It would seem, therefore, that the joints of these dogs were not affected because of high resistance of these structures to invasion by this organism during the relatively short duration of the experiment.

Calculi or lesions of the medulla were produced in 87 per cent. of the dogs whose teeth were infected with streptococci from the urine, infected teeth, and tonsils of nine patients with typical nephrolithiasis. The duration of the experiment on the dogs in which the findings were negative was too short for stones to form. This is in sharp contrast to the findings in an equal number of dogs whose teeth were infected with strains from other sources, and to those of a larger series kept under the same conditions but in which the teeth were not infected.

The experimentally produced calculi were similar in physical properties and chemical composition to those found in nephrolithiasis in man.

The number and size of the stones were often proportional to the duration of the experiment. The other findings in the urinary tract were also similar to those occurring in patients with this disease.

If albumin, pus and blood were present in the urine, there were only small amounts; and the lesions in the medulla of the kidneys were relatively slight unless ureteral obstruction from an impacted calculus occurred, when marked ascending infection developed, just as it commonly does in patients with partial obstruction of the ureter, and as produced experimentally in dogs by Keith and Snowden⁷.

The streptococcus inoculated into the teeth of dogs was isolated from the kidneys, from some of the stones, and from the teeth at the end of the experiments, and its elective affinity for the urinary tract in rabbits was demonstrated on intravenous injection. The streptococcus from the teeth of dogs that showed active lesions in the kidneys had retained specific affinity for the kidneys of rabbits, while those from the dogs that showed no lesions or only healed lesions had lost this peculiar localizing power. The organism was found in the lesions in the substance of the kidney where crystallization and stone formation were beginning.

The results of our experiments and the clinical study by Keyser and Braasch⁸, and others⁹ indicate that the factor of focal and other infections should be given thorough consideration in the management of cases of nephrolithiasis. And may not a stone-forming infection account in part for the unusual prevalence of this condition in certain localities? The demonstration of the presence of the microorganisms precisely where precipitation and crystallization begin suggests strongly that the mechanism of the production of stone is largely a local process and that the reactions incited produce the physicochemical conditions necessary, such as the nucleus and organic framework, for the formation of calculi. The common occurrence, however, of unusually large numbers of calcium oxalate and other crystals in the urine and in the medulla of the kidneys of the dogs that developed calculi, and the loss in weight, suggest that more general effects of infection may also play a part.

The conclusion that primary urinary calculi are often due to streptococci which have elective affinity for the urinary tract and, it would seem,

specific power to incite the conditions necessary for their formation seems justified.

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THE RESPONSIBILITY OF THE MEDICAL PROFESSION TO THE RISING GENERATION*

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We are living in an era of preventive medicine. I venture to say that every individual in this room recognizes and appreciates the tremendous possibilities which lie in the application of preventive medicine to every day life and the attainments already made in the improving of health conditions in both cities and rural districts.

The question of modern health service with its control of communicable diseases, the reduction of infant mortality, the securing of good water supply and safe milk supply are fundamentally educational propaganda, and the best results are obtained through the personal touch of those who teach and those to be taught.

As we have proven in the field of preventive medicine that the results were in just proportion to the time, money and thought expended, so will we find without the educational and preventive measures we will continue indefinitely dealing with effects rather than underlying causes.

Especially applicable to we find this to the subject in question, namely sex and race hygiene. It is only after many years of constant dealing with various phases of social hygiene e. g. among the Indians under governmental control, dependent and pathological mothers and babies in

the department of infant welfare, prostitutes as found in our moral courts, and venereal disease clinics, delinquents and perverts as found in our juvenile courts, that I find sufficient temerity to approach the medical profession on this subject and make an appeal for more concentrated effort along this line.

Let us consider some of the underlying causes of the great number of delinquents and dependents. The most important of these we find to be an inferior hereditary pattern. It has not been many years since one of the well known subjects for debate was "Environment vs. Heredity," and for a time it seemed that those having environment to defend found little difficulty in overcoming their opponents' arguments.

We are all familiar with reports from various philanthropists who being so convinced thought that environment could overcome all hereditary tendencies, adopted children promiscuously, without regard for the inheritance pattern from which they sprang, with the inevitable failures as a result. I have personally witnessed teachers suffer disappointment after having adopted Indian youths, with the idea that by giving them the advantages of their own children they would grow up equally intelligent and moral, only to see them at the age of puberty elope with a full blooded Indian and live happily in a tepee.

I mention this first because we need a transformation of our attitude toward the lesser evolved, the subnormal, the venereally infected, toward prostitution and promiscuity. We have adhered too strenuously to a standard for the highly evolved, failing to take into cognizance the fact that what is a crime for the elect is not for the irresponsible and unmoral, and until we can analyze and are able to comprehend more about hereditary traits and the social status of all these subjects of social hygiene, we are not approaching the most efficient methods of dealing with the soul's evolution of these girls and boys from the standpoint of their own social status. We are still clinging too tenaciously to the idea that any individual, no matter from what inferior hereditary pattern he may have sprung, who infringes on our social standard of equity, justice and right must needs be punished. We would consider it a sad commentary on our intelligence if it were suggested to us in the acquisition of knowledge, we were to be punished for every little mistake we made, and yet it is not

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wholly different in the attitude assumed toward many of our delinquents and other inferior intelligences.

The expansion of a consciousness is a very slow process and requires more deliberation of thought and understanding as to the methods of helpfulness than is manifested in the infliction of punishment.

It has been within only the last quarter of a century that the studies of heredity have given anything of real practical value. It has been found that only one per cent of the world's population has produced half of all the world's greatest men and women, and it has taken all of the remaining ninety-nine per cent to produce the other half. We are learning that most of the crime is traceable to very few families. Every one is familiar with the Jukes family, with its bad inheritance pattern. From one worthless couple sprang twelve thousand of the same type, who are being cared for at an enormous expense to the state in which they live, giving absolutely nothing in return. Against these we find the Edwards family, who have given to the world some of our best social servants, poets, statesmen, educators, doctors, lawyers, governors, mayors and presidents.

We should think of these things and realize that in supporting our state institutions we are caring for the products of poor inheritance strains, that is, paupers, insane, feebleminded and so forth, who come from a comparatively few blood lines. We should ask ourselves the same question as did the great English student of heredity, Professor Pearson, who some twenty years ago asked, "Why put all your money on environment when heredity wins in a canter?"

Hereditary transmission consists in giving again to the offspring the rudiments of the inheritance pattern that was received by the progenitors from their parents.

We pride ourselves in the idea that by teaching bodily hygiene and social measures for the care of the poor and neglected we are improving both the present and the coming generation, and yet under the light of the revived Mendelian theory as elucidated by Sieman and Barker, which reveals to us that, "the inheritance rudiments are not derived from the characteristics of the parents, but that characteristics of the parents develop under the influence of environment out of the inheritance rudiments, therefore

environment can not make manifest in the individual anything except what is already potentially present within it, and the value of the individual as such differs from his value as a progenitor."

Because of the plausibility of this theory it behooves the medical profession to begin to think in terms of how simultaneously with our efforts along all lines of improvement, namely hygiene, sports, education, social service, public health, social legislation, and so forth, we can work out some scheme or plan wherein we devote equal precedence to the inheritance pattern through an increase of the most capable hereditary stocks thereby creating a permanent improvement of the race.

It depends on whether the capable or less capable supply the larger part of the rising generation, and it is found that in both European and American culture the fertility among the inferior is greater than that among the average capacity.

"The essence of extinction lies solely in the fact that a single individual produces few or no young from whatsoever cause; so far as the life of the race is concerned he has become extinct.

"Since one-third of our people, and we might add the one-third that includes the irreplaceable best hereditary stocks condemns itself to extinction through contraceptive measures and the increase of our people is relegated to the less capable stock, then we should search for means to encourage the best selection of the middle class and at the same time discourage the lower and wholly inferior which includes the insane, confirmed criminals, tramps, prostitutes, delinquents, dependents and all pathological persons, through legal regulations. To render pathological natures permanently harmless and prevent the reproduction of other miserable creatures which prove a burden upon civilization, should consciously become the goal of our endeavors.

"If good inheritance rudiments in sufficient number are to be preserved in the people it will necessitate the carriers of the best rudiments to exhibit as great fertility as do the carriers of inferior rudiments otherwise the superior types are irrevocably doomed. We might well consider it our responsibility then to inquire who are the parents of the rising generation."

The successes our breeders have achieved among plants and animals depend upon the most careful segregation of especially good and useful hereditary stocks.

Doubtless the degeneration of the cultured people of antiquity was due to a selection which led to the extinction of the capable hereditary stocks that had created the civilization and which were alone capable of preserving them.

Therefore in spite of the brilliant types attained by the civilizations of Greece and Rome their downfall was inevitable since care was not taken to maintain sufficient fertility among the superiors who were the real girders of civilization.

Since we are living in a country where the population consists of a great variety of racial stock in full knowledge that the inferior classes are far outnumbering the superior in their propagation, it is our bounden duty to attempt to promote interest in eugenics and race hygiene as applied to the promotion of human welfare. I am hoping that day is not far distant when we may see general biology and race hygiene stressed in our educational institutions and a practical application made which will insure the preservation and enhancement of our threatened civilization.

Since we have considered the most important element contributory to either the rise or fall of the race as being the hereditary pattern, the next in importance in the underlying causes for delinquency we find to be the manner in which we have, until recently, taught and dealt with the subject of sex.

I have come to the conclusion after reviewing the experiences with mothers and their problems with their children, (and I wish now to keep in mind we are dealing with an intelligent group and not with the subnormals heretofore under consideration) that the keynote to helping the youth to cling to the ideals instilled in them by their parents and living according to right principles, is from babyhood on through life to attain and maintain so close a bond of absolute confidence as can never be broken nor betrayed by either parent or child.

Upon close analysis we will find this will necessitate fine discrimination and judgment; I know of no field of knowledge so conducive to the consummation of this bond than a sane scientific spiritual presentation of sex principles. The pathos of the situation lies in the fact that our mothers have not been taught, nor are they being taught, and do not realize what is lacking in their training of children until there has been a break in the bond.

Our responsibility in this respect seems to me to be all the greater because parents have not been instructed; therefore it depends largely upon the physician and social worker to discharge this duty until greater numbers are prepared to teach. It is the duty of those of us who have acquired the knowledge to spread the laws of sex and the dangers of venereal disease before the people, so that the tragedies like those with which we are all familiar may become rare or impossible in the future.

It would be impossible to estimate the value of the medical profession should they hold in mind what they were originally considered to be, namely teachers and instructors. By so doing they would ever be alert as to ways and means whereby our younger generations may be taught self analysis, sex principles, scientific basis for marriage, and kindred fundamentals conducive to happier home relations. So thoroughly am I convinced of the efficiency of appealing to the impelling force from within an individual as against the compelling force of the law from without the individual that I venture to guarantee that more profound and lasting results will accrue from educational propaganda than by the law. The seeming immediate results to the contrary.

It would seem that since preventive medicine is uppermost in the minds of our health authorities, that all literature is flooded with subjects pertaining to sex that we are delving more deeply with the study of psychology, psychoanalysis, analysis of the emotions and their relation to biochemistry, that the opportune time has come when it is expedient that some of our master minds state the sex principle as a fundamental principle in nature, that it may be incorporated in the school curriculum as a scientific law, and in future generations be referred to on the same plane as the law of gravity and other of the established laws. By so doing the objection to discussing biological, embryological and physiological facts in the classroom, due to prudishness, will have disappeared and the minds of both men and women heretofore morbidly sensitive to sexual impressions will become normal.

When we review all sciences we find many time basic principles stated as theories only. We accept them because they give us a working basis, even though later on they may be exploded and supplanted by other theories. So for a moment

let us consider the sex principle as a primary principle which may be stated as "That principle in nature which impells every entity to seek union or harmonic relation with another like entity of opposite polarity."

In reviewing the four kingdoms throughout nature, namely, mineral, vegetable, animal and human, we observe a distinct line of cleavage dividing all energies into positive and negative departments. It would seem that between all positive and negative energies there is an inherent attraction, an irresistible impulse for union, and since everything known to man belongs to either the positive or negative departments of nature this underlying principle governs all things from the chemical atom to the intelligent soul. Just what this universal impulse may be in this most mysterious of natural processes has been an intellectual mystery that the best minds of the race have failed to solve. It is one and the same principle manifesting throughout the four kingdoms of nature, the specialization being immeasurably increased where it deals with the self conscious needs of the soul. It governs the increase of intelligence and the development of reason, morality and love.

It is evident then that nature has a purpose in creating this distinct line of cleavage throughout the four kingdom thus dividing them into positive and negative, male and female, man and woman. That purpose seems to be to attain an equilibrium between the positive and negative entities. Every thing from the unconscious mineral atom to the self conscious living soul is seeking an independent relation that is in harmony with itself. When the time comes when this principle is taught in our schools we will find our studies of chemistry, botany, zoology illuminated as never before, for we shall have correlated the entire scheme of evolution within one fundamental principle.

When self analysis and analysis of the emotions have been taught then sex, which is of profound interest to mankind, may be understood and dealt with sympathetically.

Until such time arrives when this subject is introduced in and becomes a part of the regular course of study, how may we best reach the greatest number of parents and so instruct them

that they will be ready to answer the first questions of their children about physiological functions of the body?

From the interest manifested by the crowds visiting the department of social hygiene last summer at the county fairs throughout our state where an average of from three to four hundred passed through every hour, it would seem sufficient proof that the public wants to be instructed. Reports from the Illinois Social Hygiene League, and The American Social Hygiene Association, assure us of the profound interest manifested in all rural districts visited by them. From the trend of events then it would seem that we are obligated to work out this program.

I recall a lecture given by Dr. W. A. Evans of Chicago a few years ago who, while speaking on this particular phase of education, said: "In my judgment the venereal disease question is not exactly the same as the question of sex immorality, or sexual irregularity. My judgment is we will control venereal disease or repress it a long time before we will repress or suppress sexual irregularity. The questions are not parallel, and those who are in favor of supporting a program directed against the one should aid those who are in favor of a program directed against the other. They are companions in arms. I hope they will always work shoulder to shoulder. As a public man it is my judgment that we who have the public health question as our particular child will have solved our problem long before the other group will have controlled theirs."

While we have a keen appreciation of the importance of caring for those already diseased, rendering them non-contagious or cured, we must not become so engrossed in this phase of the work as to neglect the formulation of plans for the education of the rising generation.

In view of the fact that most of our educational films and lectures have combined sex talks with venereal diseases there seem to me a splendid opportunity among the smaller cities and towns throughout the state to establish venereal disease clinics and use them as centers for educational purposes. This is being tried out in some districts and while they may for the time being present some objectionable features they will be adjusted in time and will prove of inestimable

value as a distributing center for literature, films and lectures thereby awakening and informing a greater number of people than could be done by any other method. Thus serving the two-fold purpose of being advantageous to both the community and the medical profession.

In closing, I desire to offer the following suggestions for your serious consideration; Install a chair of social hygiene in our schools, especially normal schools where vast numbers of teachers are graduated yearly. Have instructors in physiology incorporate sex hygiene and reproduction in their lectures in high schools. Implore the universities to stress general biology from the standpoint of race hygiene. Urge the professors in both high schools and colleges to teach chemistry, botany, and zoology as to convey to the student mind that the same sex principle manifests throughout these realms as in the human kingdom.

Let us begin here and now working out some plan in the department of psychiatry whereby the babies and youths may be given some such thorough examination as that used in the Leopold-Loeb case for the purpose of detecting early signs and symptoms of degeneracy and institute treatment before they have committed some dastardly crime.

We do not hesitate in our communicable diseases to separate members of the family who are infected, and administer treatments. The same thing should apply only with added zest to those mentally diseased. Above all, let us strive to keep an open receptive consciousness toward all movements irrespective of the source from which they spring, and instead of condemning them without trial give them thought, and if they have the element of construction lend our assistance and endeavor to keep them within ethical bounds. Thus by keeping the receiving and giving powers of our great organization of medicine equally balanced we will continue to be known as a broad humanitarian movement noted for its anticipation of human needs and the administration of the specific remedy.

DISCUSSION

Dr. C. S. Skaggs, East St. Louis, Ill.: I do not know that I am ready to agree with the former speaker, in that education is the keynote of this problem. I sometimes feel that you might as well try to educate

color out of the skin as sex out of the human race, and the more I study the problem the more I am in discord with that theory. I feel we are putting a bit too much on education. Educational work is a wonderful thing, and none of us are questioning it, but we have learned in recent years that there are some things education cannot do. I doubt if ever our sex or social problems will become Utopian by education. I think we must revert back to the home, to the family physician, to do much of this work, because people are not going to listen to you on these things who know you are not personally in touch with them. That is human nature. All of you know, who have studied this problem, that some of our greatest social workers are most highly endowed sexually personalities. Can you tell me how such a person can educate you to conduct yourself sexually, when they themselves are so sexually endowed, some of them on the borderline of perversion? Until we come to the point where you are going to recognize something about the soul of the individual, and that a man or woman has a soul, you are not going to touch the sexual aspect. That has been my experience and I believe I have had enough contact with this work to make me believe this. We must quit dealing with generalities, and think of people as individuals.

Dr. Elizabeth B. Ball, Springfield, Ill.: Since this is the first opportunity I have had of hearing this paper, I do not feel in a position to discuss it as thoroughly as it deserves. It seems to me education is really the keynote of all these ideas and all this work. For this reason I want to refer to some things that have occurred in the past few years in my experience—some in the city of Quincy. Let us realize that people are not prepared for certain phases of this work. I remember we had a speaker on social hygiene from Chicago. I was working with the Y. W. C. A. at the time. She gave four lectures in the city, going to the factories at the noon periods, and lecturing to possibly 175 people in the afternoon and 300 or more in the evening. Everyone was delighted with the talk they had heard. The press commended it very highly, and everything went off beautifully. One year later when the W. C. T. U. was having a meeting, the secretary of the Y. W. C. A. asked why we could not have this same lecturer at the high school to talk to the assembly. This arrangement was made, and the lecturer came, gave a talk to the students in the high school, both boys and girls. At the conclusion of the talk, the principal of the school did not refer to the speaker or to the lecturer—simply made an announcement pertaining to the school work. Naturally we felt a little chagrined, and the speaker (a woman physician) asked him what was the matter. "You do not understand these things as I do. You do not realize that the mothers and fathers will come to me about this matter. You will be gone, but I am going to have to hear the criticisms." One of the teachers stepped up and congratulated the lecturer, and as we went down the aisle, the janitor came up to us and said, "That is one of the best talks we have had for years." The school

janitor usually knows everything that goes on in a school. That talk and the comments on it just spread around the city like wild fire. There was more than a general discussion. One doctor's wife said to me, "I am very much surprised at you. I understand you were on the platform that day. My little girl was in the audience. Do you mean to tell me you approve of anything like that?" I asked her why she did not approve, and she said, "I feel that is taking my rights as a mother away from me. I have given my little daughter instructions on these things; I have given her the instruction I think she needs." I finally got her to tell me what it was she disapproved of. She said she did not like those things to be discussed publicly, that she preferred to talk to her daughter herself. I said, "If you have instructed your daughter, she had no reason to be shocked by anything that was said at the lecture." While in the Department of Public Health, I went down to the southern part of the state to address a Farmers' Institute meeting. The principal of the high school asked me to give a talk on social hygiene. When I saw that audience, those poor undernourished children, with all sorts of physical defects, eyes, throats and everything under the sun, I decided that they did not need social hygiene so much as general hygiene. In practice, I think every physician has the same experience. It is a matter of education all through. We will have to have people who are prepared to do this work and do it properly, and give this information in the proper manner.

Dr. J. J. McShane, Springfield: There is no question but we have a great problem to solve. Something should be done to determine at a very early date the physical status of the child. I heard a doctor make a statement that at the time of birth he always obtained a specimen of the blood from the babe and from the mother for a serological examination and he reports that from 7 to 8 per cent. of the specimens taken gave a positive Wassermann.

Dr. R. V. Brokaw, Springfield: I cannot feel with Doctor Edmonson that the civilization of the human race is threatened. I rather favor the theory of the survival of the fittest. Nor am I so sure that our civilization is such a wonderful thing. From the biological standpoint I think there are a great many objectionable features about it. When I recall the great suicidal cataclysm into which the whole world plunged a few years ago, I am strongly inclined to feel that our boasted civilization is hardly more than a veneer. We express considerable regret about the passing of the great Nordics. I cannot but feel that if the Slav one day rules Europe, if the Chinaman one day dominates the world, they prove themselves to be superior and so deserve the triumph. I am much more interested to know what type of animal will dominate this globe after the age of man has passed. I mention this only to illustrate the importance of perspective in the study of any problem. I am not worrying about the girls and boys of this generation. I think they have more sense than many of us had; there is more freedom; they are more wholesome, and they certainly

face life more squarely than we did. I wish we Americans had as much frankness as the Europeans in this matter of social hygiene. I am sure that our present prudery will pass in the natural biological development of the race.

Dr. Mabel Otis, Moline: I think it is too bad that the principal of our high school and the heads of families in Moline are not here. There is no question but what they are up before the jury and under condemnation by all of us. I am reminded of the Irishman who said that every fellow should holler for his native land, whether he was born in it or not. I think this paper most complete and convincing, and I think Dr. Ball's discussion was very true. I have served on the Board of Education, on parent teacher organizations and on the W. C. T. U. and I know whereof I speak when I say this path is fraught with difficulties. I am very free to confess that one of the greatest problems I have found was when I taught my children certain things, and had to stand by and wait for them to decide whether mother was right or whether the boys were right. Unless these ideals are emphasized in all branches, and unless our children are taught in infancy it is true that their knowledge will come through unclean stories. If we could talk to enough people, if the mothers and fathers could realize, if the teachers could see their part, their high responsibility, I believe the problem could be met in the proper way. I believe this is the greatest test. Unless our children are taught as we would like to have them, rationally and sensibly, it is better that it should be done in school rooms, in the proper and educational way.

Dr. June L. Edmonson, Chicago (closing): I appreciate beyond measure the stimulus of this discussion and am grateful for some of the points which have been brought out. I happen to be the mother of a 21-year-old boy myself. I had studied medicine and when my boy was five years old he was instructed in a scientific way concerning these matters and all during his boyhood I never lost his confidence. He was asked what was the thing most conducive to his stalwart manhood and replied "The ideas instilled in my mind in the confidential talks with my mother about every function of the body." We have the idea that we must talk to our girls at the time of puberty, but what about our boys? Every function of their body undergoes a change at that time and they should be given advice and instruction just as much as the girls. With regard to sex, I do not mean eliminate—I mean control. Sex is one of the biggest things in our makeup. There should be no secrecy, but there should be intelligent, scientific instruction to enable them to look at it with a sane viewpoint.

It might be well for those interested from the educational standpoint to read what Cornell University is doing along this line. There they incorporate a comprehensive series of lectures on sex hygiene along with the hygiene of all physiological processes. We hope that what one of our great universities is doing all will eventually do.

SARCOMA OF ORBIT—REPORT OF CASE WITH PHOTOGRAPHS*

G. S. DUNTLEY, M. D., F. A. C. S.

MACOMB, ILLINOIS

Eyes—Vision, right 20/100, left 20/30; the left nasal cavity. A section of same showed it to be large cell sarcoma. Right side of the nose was normal.

This is not an uncommon condition, but is of interest in showing the phenomenal disfiguration of the face.

Mrs. M. R., age 60, was referred Aug. 22, 1924, for stoppage of left side of nose and swelling in the face.

About two weeks previously the left side of nose became stopped and remained so, but no pain or distress.

Examination showed a tumor mass occluding

DISCUSSION

Dr. Walter Stevenson, Quincy:

My average in these cases is fifty per cent. I have had just two, the one for whom I did a great deal died. The one for whom I did little recovered. With the one who recovered, there has always been a question in my mind, as to whether he had a sarcoma of the orbit. This case was that of a Mexican laborer, about forty years of age. He came to me with a history of falling on a stick, the sharp end of which entered the orbit just above the eye. He pulled the stick out, and except for a slight infection, he appeared recovered. When he came to me several months later, the eye was greatly proptosed. Suspecting an abscess, I incised deeply into it and found I had cut into a hard mass, a section of which was removed, and examined in two laboratories, report from each being round cell sarcoma. The patient was referred for radium treatment and recovered very promptly after five or six treatments. So far as I know this man is well now, and to my personal knowledge was well three years after the radium



Aug. 25, 1924.

Nov. 23, 1924.

Fig. 1. Sarcoma of left orbit.

left orbit had a tumor presenting over the lower orbital ridge.

Transillumination—Right side clear, left side entirely dark.

This condition steadily increased without discomfort until Nov. 20, when the last photographs were taken.

The tumor then had pushed out onto the left cheek, pushing the eye upward and outward about two inches, extended down into the mouth and over the nose.

The left eye—The tension was low, but she could readily count fingers at four feet.

She was just beginning to have opiates for the distress. There was no breaking down of the tumor, but increasing in size steadily, and extended entirely over the nose, and nearly covered the right eye at death, Dec. 25, 1924.

treatment. Of course, there is a question in this case as to whether this might have been a chronic granuloma. The laboratory reports, however, must be given consideration.

My other case was that of a man, seventy years of age, who came to me with much the same condition, that you see in Dr. Dunkley's second picture. I did a complete exenteration in that case and implanted radium; however, the man died of a metastasis in the liver. I am treating a case now, a woman of thirty who has a very slowly progressive proptosis of her right eye; her vision is normal, she has no pain, X-ray and all other laboratory examinations are negative. The question here is, should we go behind this eye, and investigate the orbit. I hesitate in such cases to do an operation of this kind, for I feel that something should be done now, in other words, my feeling about these malignancies, is that the earlier we operate the better the result. In view of my experience, I feel that radium or X-ray therapy should be used.

Dr. H. B. Young, Burlington: I had a case last year of a woman 86 years of age, who came to me

*Read before Section on Eye, Ear, Nose and Throat, Illinois State Medical Society, Quincy, May 20, 1925.

with a tumor mass in upper nasal orbit. There was a little hemorrhage in the anterior chamber. Eye-ball stone hard proptosed down and out and practically no movement. She was visiting in my part of the country, and the daughter lived in Chicago. So I advised her to go back to her daughter. She came back a month later when the picture was entirely changed. She hadn't followed my advice. At that time there was intense chemosis or conjunctival swelling down between the lids. Instead of a doughy mass in the upper nasal corner of the orbit, there was a swelling which had a distinct fluctuation. Then she decided she would follow my advice and go back to Chicago; and she went under Dr. Faith. I eventually understood that he incised the swelling and got a bloody serum as a discharge. She lived about six months. She was 86 years of age at the time, something rather remarkable that she should live so long—in constant distress.

A METHOD OF REPAIR OF SCALP DEFECTS.*

E. P. COLEMAN, M. D.,
CANTON, ILLINOIS.

A rather extensive review of the literature reveals many cases of scalping or of severe scalp injuries where difficulty was had in making skin grafts grow, but very few where the pericranium was destroyed and no vascular surface present for grafts to grow on. It is my purpose here to report two cases of the latter type.

Scalp defects following injury may vary greatly in extent and also in their tendency to heal. Simple wounds, or those associated with skull fracture will not be considered here, because their healing is ordinarily a simple matter. Instead I wish to take up those injuries of the scalp where so much tissue is lost, or the blood supply is so badly damaged that it is a difficult problem to obtain an epithelial covering.

The commonest example of this rather uncommon injury is avulsion of the scalp. The earlier cases reported in medical literature have been where women factory workers have had their hair caught in moving machinery and the scalp torn partly or wholly off. Automobile accidents have given another series of cases, usually somewhat less severe. Extensive burns have also caused the same difficulties in healing that are found in the types just mentioned.

In the early history of this country, many wounds were made by Indians scalping their captives, and many of these scalped individuals survived. Scalping, by the way, has been done by the earlier representatives of almost all races at some time during their development. It is mentioned in the Bible. Herodotus says it was practiced commonly among the Scythians, the ancestors of the modern Cossacks as early as 1500 B. C.

Halsted in reviewing 26,000 cases at Johns Hopkins, failed to find a single case of avulsion of the scalp in that number. Davis in 1910, summarized 132 cases of avulsion, while a little later, Law added to his cases enough to bring the total up to 167. Of these cases the majority were avulsion of the scalp alone, with the pericranium and its blood supply being left intact. A smaller number of this group, not listed accurately, had all tissue destroyed down to the bone itself, and it is the handling of this type of case that I wish particularly to take up.

The scalp proper consists of the skin, subcutaneous tissue and the aponeurosis of the occipito-frontalis. This is separated from the periosteum or pericranium, by a loose layer of subaponeurotic areolar tissue, that permits the free movement of the occipito-frontalis tendon. As the pericranium is quite firmly attached to the skull, it is not usually injured when the scalp is avulsed. Consequently, after an extensive scalp injury has occurred, the parts may be cleansed thoroughly with soap and sterile water, irrigated with Dakin's solution or bichloride of mercury solution and closed with sutures. However, I have been unable to find record of a single case where primary suturing has been successful when the scalp has been unhas been successful when the scalp has been completely avulsed. Flaherty says to graft the raw pericranium with Thiersch grafts as soon as the bleeding is stopped and the area disinfected. Law recommends the use of amniotic membrane for the same purpose. However, heterogeneous grafts have not as a rule been successful. A case recently reported by Holman in the *Journal A. M. A.*, is a good example of this type. In a case of complete avulsion of the scalp, granulations formed over the head,

*Read at annual meeting of Illinois State Medical Society at Quincy, May 18, 1925.

were freed from infection by frequent irrigations with Dakin's solution, and finally skin grafted with pinch grafts until the entire area epithelialized. This is the method of choice under these conditions, and practically the only one that is successful. If cases of this type are not skin grafted quite extensively, they may be very slow in healing. Gussenbauer had a case lasting twenty months. Abbe of New York had a case treated successfully, which required 12,000 grafts in four years' time. These were pinch grafts, and a few were applied 2-3 times a week.

The second type is where along with the loss of a greater or lesser amount of scalp, the pericranium is destroyed. This has happened in some cases of scalping, a few of avulsion, where along with a large area of scalp, a smaller amount of pericranium was lost, in deep burns, and in my two cases of electric burns. In the healing of these cases, granulations form wherever there is an area of pericranium to support them, but of course cannot grow upon the bare bone, as that cannot furnish a blood supply. By the time that the skin edges have been freed from necrotic tissue and rendered sterile by Dakin's solution, enough retraction of the scalp has taken place, that it is impossible to cover the defect by undermining the scalp and drawing the edges together by suture. Wallace has bridged the gap centrally and left a lateral gap on each side, with healthy pericranium underneath. This will heal from the edges, or can be grafted at a later date, but will only apply to cases where the defect is quite small. If flaps are taken from the side of the wound, it is difficult to make them adhere over the dead bone, and many attempts at the usual type of plastic operation result in failure.

The only supply of blood which is available to remedy this condition is in the diploic veins, in the space between the outer and inner tables of the skull. These veins contain blood that came originally through the osseous branches of the arteries of the dura, and are connected with the circulation of the outside of the skull, by means of the emissary veins. If these veins are properly uncovered, they will furnish the blood supply for healthy granulations over which the neighboring skin will grow, or which will furnish an excellent base for skin grafts.

The diploic veins may be reached in one of two ways. The commonest being to drill numerous small openings through the outer table of the skull. This is sometimes called the Mayo method. Granulations will spring up through these holes, will coalesce and form a base for skin grafts. Another method which has the single advantage over the previous one of saving time, is to remove the whole outer table, where there is no blood supply to be otherwise obtained, and have a vascular area available at once.

The earliest recorded case upon which any such method was used, was reported in an article by Bevings of Philadelphia. In 1777 a Philadelphia doctor by the name of Vance, had a patient who had been scalped by the Indians. His wound had all healed excepting the middle portion which was bare bone, and which showed no signs of improving. Vance took a shoemaker's awl and bored numerous holes through the outer table. That is, he quit boring when a reddish fluid appeared. In his account of the case following operation, he said that "after a time proud flesh appeared to rise in these holes," and he further stated that the wound "skun over slow."

Law, in reviewing Porter & Sheddon's record of Dr. Vance's case, recommended drilling to the diploe and then skin grafting over the granulations when they appeared. Davison in 1915, drilled down to the dura in such a case. He made 50 holes in an area about three inches in diameter. Granulations sprung up through these holes, coalesced and covered the bare area. This eventually healed from the scalp edges without grafting.

The following two cases are reported to demonstrate this method as being probably the easiest and most satisfactory way of obtaining an epithelial covering when the bare skull is exposed.

Case 1. B. H., a man 28 years of age, on January 23, 1924, while working near high tension wires, brought his head in contact with a wire carrying 2,500 volts of electricity. He was rescued unconscious and taken to the Graham Hospital, where I first saw him in consultation with Dr. J. E. Coleman. His injuries consisted of several superficial burns upon the hands, back and right foot, where the current had grounded, and a deep, charring burn upon the left parietal region, about four inches in diameter. The burns were treated with sterile vaseline, and healed readily excepting the

one upon the head. When the charred slough separated the burn was seen to extend down to the bone. After irrigating this wound with Dakin's solution until it became sterile, an attempt was made to cover the defect by operation. On April 12, 1924, under local anesthesia, about two-thirds of the scalp was undermined, split into four sections, and freely mobilized. In spite of extensive mobilization the tissue edges could be held together only by pulling the sutures up very tightly, and in the center, the bare area could not be covered entirely. In the course of ten days the transplanted edges had sloughed and retracted, until the bare surface was as large as ever.

After this experience the patient returned to work, dressed the wound himself and reported only occasionally for observation. After waiting for a period of four months, with no improvement, he again consented to a further operative trial. My intention at this time was to drill a number of holes to the diploe and see if enough blood supply could be obtained to furnish granulations that would support an epithelial surface. On August 28, 1924, the head, which had been previously shaved and prepared, was again cleansed with McDonald's solution and prepared for operation. No anesthetic of any kind was used, as it was intended to drill bare bone which would have no sensation. A bone drill 1/16 inch in diameter was used, and about thirty holes, averaging 1/4 inch apart, were drilled through the outer table, stopping when there was a free flow of blood. When the drilling was practically completed a portion of the outer table cracked and came off with the drill, revealing a fresh surface of healthy granulations under the dead bone. With this evidence of the condition I had hoped to obtain later, already completed, I removed all the outer table in sight, and as far under the scalp edge as could be reached. There was no discomfort to the patient while this was being done, and while there was a slight amount of bleeding from the newly found granulations, it was easily controlled by hot packs. The patient had no discomfort of any sort following this operation, and within a week was ready for skin grafting. The raw area was covered with Thiersch grafts, obtained from the patient's back under local anesthesia, and within two weeks more the wound was completely healed. From that time up to the present the patient has had no trouble with his scalp.

Case 2. L. G., a man aged 26, on May 19, 1924, was working on a high tension wire near Cuba, Ill., when his head came in contact with a live wire carrying 33,000 volts. An arc from this entered his head and was grounded through the left foot. At first he was unconscious and thought to be dead, but artificial respiration was performed and he revived, only to develop a wild delirium which lasted for an hour, and was partly controlled by 1/2 gr. morphin sulphate. I first saw him at the Graham Hospital about three hours after the accident, in consultation with Drs. J. W. Welch and C. N. McCumber. He had superficial burns over the chest, neck and left leg, while the left

foot was badly burned on both top and bottom. There was a deep charring burn on the head that involved an area three inches in diameter over the occipital bone, and extended forward over the left parietal bone, five inches long by less than one inch wide. He gradually recovered from the shock and four weeks later was moved to his home with the superficial burns healed, but the left foot and head still unhealed. By this time the charred tissue had separated from the scalp, leaving the bare bone exposed without periosteum, and the granulating edges had made the circular burn about two inches in diameter.

I next saw him on August 7 when the foot was almost well, the long narrow burn over the left parietal bone was healed, but over the occipital bone there was a defect in the scalp, healed down to the bone with epithelium, leaving an area of uncovered skull two inches in diameter. Operation on August 8, 1924. The head was shaved and prepared with McDonald's solution, and with a 1/16 inch drill the outer table of the skull was drilled down to the diploe in 20-30 places. The bone was thicker than in the previous case, and more difficult to drill. With the recent experience of so satisfactory a result in removing the entire outer table, it was decided to do the same here, but the density of the bone made the operation more difficult. Finally, after making the drill openings close together, it was possible to pry off portions of the outer table with a chisel, until the entire area was uncovered. Here again, as in the previous case, a well formed bed of granulations was found. This removal of bone had to be done gently, as the patient had received no anesthetic, but he complained of no pain at all. It was planned to use skin grafts after a week or ten days to cover the raw area with an epithelized surface, but as the patient felt no ill effects from the operation he left the hospital the same day and did not return for two weeks. At this time the raw surface was nearly covered with a new layer of skin that had grown out from the adjacent edges, so it was let alone for another week, at the end of which time it was entirely well. A recent report from this patient is to the effect that the scar causes him no trouble, and that aside from a painful foot, he has no ill effect from his injury.

It is obvious that no conclusions can be drawn from two cases, but when I consider the time wasted in ineffectual operation and treatment of the first patient, I feel justified in calling to your attention the fact that the method employed in these cases is just as effective now as when employed by Dr. Vance in 1777.

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DISCUSSION

Dr. Carl Beck, Chicago: This report of Dr. Coleman is of great interest because it opens a number of questions of plastic surgery which interest me very much. My earliest experience with scalp defects was a case reported by Kussenbauer. He had had several cases of bullet injuries where the scalp was torn off. My own experience has not been so much with traumatic injuries as with pathologic injuries. A woman, whose case I described in 1896 in the *Journal A. M. A.*, had an olive size defect of the scalp due to syphilis. In this case cicatrization took place underneath the abrasion which led to a number of fistulae and afterwards to the large defect. The bone remained bare, and the area was covered with unhealthy granulations. There was a question of covering this defect and at that time I had not had very much experience as to the rules of plastic surgery. I had an idea that I might use an animal graft and my assistant, Dr. Carl Wagner, operated on a dog along side of my table while I operated on the patient. He shaved the side of the dog's chest, cut out the ribs and pleura and cut a flap about the same size as the defect in the head and I put that into the defect in the scalp. For the first few days it looked very well, then all of a sudden something occurred and every one wanted to move away. There was a smell of dead dog. All the patients did not know what had been done. We took the patient up to the operating room. The flap had become dry but there were some adhesions and a collateral circulation had been established. I removed the flap with all the tissues. Something occurred that interested us very much. There was bone-forming tissue and ossification took place.

Another case I saw in the practice of my namesake, Carl Beck of New York, who was a very good plastic surgeon. He had not tried skin grafting but he had tried transplanting of a free flap in quite a large defect. He had taken off the superficial skin of the scrotum to use in covering a defect on the scalp. As it healed it looked like a little scrotum on the man's scalp.

Dr. Frederick Christopher, Winnetka: Would it not be advisable in the future if one had a case of fresh avulsion to adopt this procedure at once in the hope of getting granulations? Would that not be good routine treatment in such cases?

Dr. E. P. Coleman, Canton (closing the discussion): In reply to the last question, I think that would be a very good idea. When I had my first case I did not know how to handle it. I had to look it up in the literature. In the second case or in both of them as a matter of fact, it would not have been right to do anything at the time the patients were brought in because they were in shock from electric burns. Afterwards there was this sloughing off of the area and the flap had to be put in. If you could go in early I think it would be ideal. In both of these cases there was only a layer of thin inner table left.

I want to thank Dr. Beck for his discussion.

BILATERAL HEMATOSALPINX WITH RUPTURE OF ONE TUBE

H. HOYT Cox, M. D.

ALBERT H. BAUGHER, M. D.

CHICAGO

Simultaneous hemorrhage into both fallopian tubes is a rather unusual condition. It occurs most frequently in extra-uterine or tubal pregnancy and may be due to a double impregnation, or pregnancy in one tube with congestion of the other. It may also occur in cases of atresia of the vagina and uterus where menstrual blood accumulates in the tubes. Hemorrhage into the tubes may take place during the course of a chronic catarrhal salpingitis, hydrosalpinx or pyosalpinx, torsion of the tube or erosion of small vessels being the active cause. Mild bleeding into the tubes may rarely occur also during normal menstruation.

Bilateral hematosalpinx, complicated by apoplexy of one tube is extremely rare. It is in most cases due to tubal pregnancy in its early stage, although Bland Sutton and Veil¹ have traced ruptured hematosalpinx in several cases to partial torsion of a tube already dilated with blood from other causes.

G. Granville Bantock² cites a case of ruptured hematosalpinx which at post mortem showed the outer part of the fimbriated extremity of the right fallopian tube distended to the size of a tennis ball. A clot had formed plugging the opening. Nothing could be found to indicate a recent existence of a decidual membrane. He makes no attempt to explain the etiological factor.

Alban Doran³ reported a case of tubal abortion with hemorrhage into the other tube. In his case, however, the existence of a tubal pregnancy was demonstrated beyond question. In the following case no evidence of a tubal pregnancy could be found in either tube although numerous sections were made at close intervals. Our patient, a young white female, aged twenty-eight years and married, was admitted to the Illinois Central Hospital March 13, 1924, at 10 A. M. in a state of collapse. At 8 P. M. the preceding night she was seized with a severe lancinating pain in the right lower abdomen which doubled her up. She became nauseated and vomited several times. The pain became progressively

1. Sutton and Veil; Centralblatt F. Gynals, 1891 44.
 2. Bantock, G. G.: Brit. Gyn. Jour., 3, 1894 5; 490-503.
 3. Doran, Alban: Brit. Med. Jour., 1891, v. ii, 787-793.

worse and in a few hours she complained of intense weakness and thirst. Her last menstrual period was February 1, 1924, but on March 1 she had a slight flow for one day. At the outset of pain, March 12, 1924, she noticed a slight bloody discharge which had continued up to the time of examination. She had a spontaneous miscarriage eight years ago, shortly after her marriage. She did not become pregnant again although no precautionary measures were used. For the past six months she had observed a dull aching pain in both lower iliac regions at times and a moderate leucorrhoeal discharge had been noticed. Her last normal menstrual period was extremely painful, necessitating her confinement to bed for one day. Ordinarily she had only slight pain, with no incapacitation. Upon examination we noted that she was extremely pale, and had a rapid, weak pulse. She was markedly tender over the entire lower abdomen but more so in the lower right iliac region. Vaginal examination disclosed a boggy mass filling up the right cul-de-sac, which was extremely tender. The blood count showed 3,640,000 reds with 68% hemoglobin. The urine contained a trace of albumin and a few hyaline casts.

left tube was markedly distended with blood but not ruptured. The ovaries were normal. Both tubes were removed and the patient made an uneventful recovery.

The pathological examination showed the right tube to be filled with blood and moderately dilated. There was a large rupture through the fimbriated extremity. The fimbria were not normal, being somewhat matted together so as to partially close the tube at this point. The left tube was completely closed at its fimbriated extremity and somewhat larger than the right and more markedly distended with blood. The isthmus of each tube appeared normal. The walls were thin with the exception of a few comparatively small areas where slight thickening existed. There was no evidence of pregnancy although a large number of sections were examined. As shown by the photomicrographs, the thickening was due to the projection of villi into the lumen and an inflammatory reaction was noted at these points. Sections from the walls of the tubes showed a marked reduction in the number of villi without the usual fibrous changes of a sub-acute or chronic inflammatory condition.



Fig. 1. Gross specimens. Arrow denotes site of rupture.

A diagnosis of ruptured right tubal pregnancy was made and immediate operation performed. The abdomen contained a large amount of blood, fresh and clotted, with active hemorrhage from the right tube, which was distended with blood and ruptured at the fimbriated extremity. The

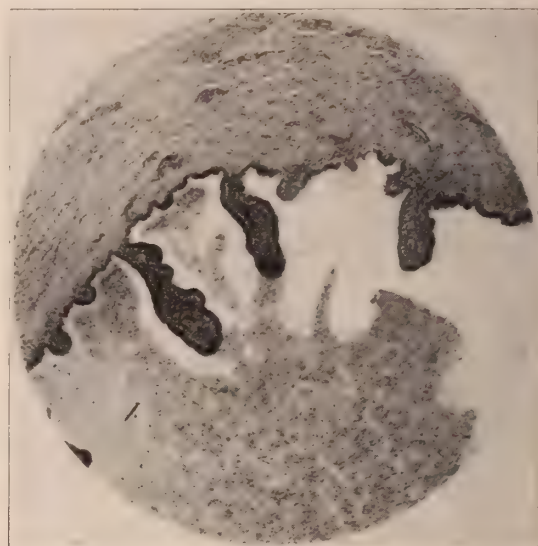


Fig. 2. Showing villi projecting into lumen.

The areas which did show inflammatory thickening showed numerous plasma cells and some round cells. No polymorphonuclear or eosinophilic leucocytes could be found at any point. The sections however showed evidence of catarrhal salpingitis in that there was a fusing together of the villi of the tube, with numerous round cells

present in the walls at the points of greatest thickening. In the normal tube the lumen should be nearly filled by folds of mucous membrane lying free.

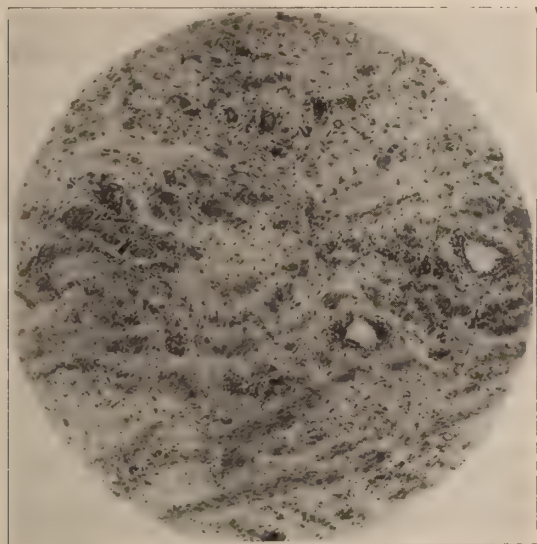


Fig. 3. Showing inflammatory reaction.

In catarrhal salpingitis there is little doubt but that both tubes are usually infected, but frequently one may heal completely while the other goes on to a more destructive condition.

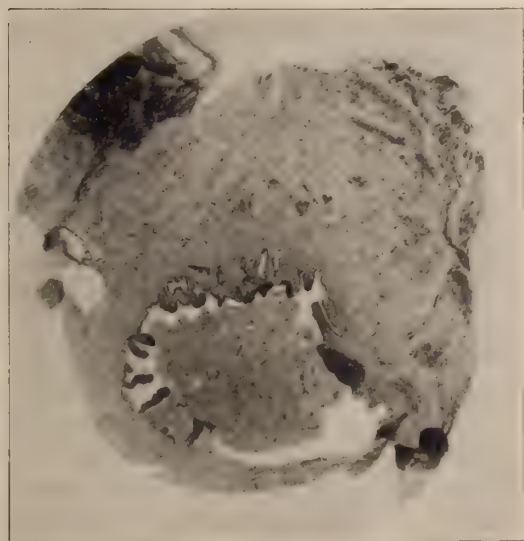


Fig. 4. Unruptured tube showing hemorrhage in lumen.

Although clinically our case resembled a ruptured extrauterine pregnancy, absence of histological evidence, and the definite inflammatory changes in the tubes lead us to believe that the

underlying etiological factor was a primary catarrhal salpingitis with subsequent erosion of tubal vessels. Torsion of the tube filled with blood probably predisposed rupture.

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INSANITY AND THE SHORTNESS OF HUMAN LIFE ATTRIBUTED TO ANCIENT AND MODERN SENSUALITY*

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In this paper I shall undertake to point out the relation between phallicism or phallism, sexual perversion, and insanity, and to what degree they are similar to and dependent upon one another. Unsoundness of mind and insanity I shall treat as natural consequences or inevitable sequences of the old phallic worship. Not that I mean all forms of insanity can be traced to phallicism, of course, but that the greatest share of mental disorders have their origin in that strange and enticing form of worship practiced by our pagan and barbaric ancestors, and its modern and present-day offspring—over-indulgence in coitus and quasi worship of the sexual organs. Christianity will be included in my remarks only to the extent of making clear what I believe to be true, namely: that it was and is the dominant factor emancipating man from vice and sensuality and bestiality born of sex-worship. Again, it is not possible to analyze phallicism in its minutiae and comprehensively, or to point out that the light of reason and conscience finally taught men that phallicism destroyed the very foundations of life itself, if Christianity be omitted, although the tenets of each are diametrically opposed to one another.

I have no new dogma to expound, nor is it my purpose to make these remarks savor of a homily or an argumentative discourse. I shall merely undertake to show that much insanity came to us through the carnality of ancient and modern men. And I shall also attempt to prove that men's lives were shortened as a result of such practices.

That Christianity has for 1900 years rested securely on the beatific citadel of Christ's teach-

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ings, and that it has stood firmly as an impregnable bulwark against the licentiousness and base sensuality arising like a noxious miasma from phallicism and its kindred vices should not, I think, be denied by logical thinkers, or even by the casual student of history. I shall endeavor, however, to show that this is true, and that the advent of Christ has no parallel as an extraordinary and enduring force combating sin, as typified in the licentiousness emanating from phallicism, since the first man and woman came forth in radiant purity and immaculate as images of their Creator, to live and love away a dreamy existence under the quiet and summery groves of that terrestrial paradise described in Genesis. The serpent of temptation caused the downfall of our first parents from their state of child-like innocence, and thereafter they indulged in carnal practices hitherto unknown to them, until that time long after, when their children had multiplied into numberless myriads, Christianity came into the world to combat another serpent exemplified in the pleasurable though debasing form of phallicism or sex-worship.

In order to construct a substantial fabric for the subject of phallic worship, and for the premise that it is a forerunner of insanity, and that I may form a basis for the assertion that the manumission of its devotees or votaries from such worship comes through the influences of Christianity, I shall first briefly define insanity, unsoundness of mind, and phallicism. Afterward, I shall enter into a review of the peoples living during the period when phallic worship was at its zenith, and tell about their achievements as well as their vices. Such essential facts will the better enable you to weigh and consider all that follows. I shall explain with some detail what advancement phallic worshipers had made in the liberal arts, in the sciences, and in letters; something about their customs and laws, their environment and their manners of living, their bravery and their fortitude in times of stress, their superstitions and weakness, and their attitude toward life, with their conception of death and immortality. This review will aid us in drawing a comparison between the ancient and modern pagans with their phallicism, and people of today, many of whom openly declare a profession of Christian faith, but who are in reality sex-worshipers.

Insanity means not sound. It is a disorder or

dissolution or a breaking up of the mental faculties, more or less permanent in character, but without loss of consciousness and will. It is marked by changes in character and habits, by illusions, delusions, and hallucinations, and by unreasonable and purposeless actions and language. We speak of it as madness, lunacy, and mania. An insane person does not react normally as a member of that society to which by birth and education he belongs. He deviates from the ordinary line of conduct, and in fact the legal test of insanity is based mainly on conduct, although serious harm often arises when this legal view is adhered to too closely and regarded as an infallible criterion. The relation of insanity and crime and vice is therefore closely interwoven, and it is often difficult to classify them and differentiate between the normal and abnormal reaction of an individual to his circumstances and his environment, because of one's inability to determine with certainty the line of demarcation between the sane and the insane.

The luxury of madness was once argued by Heraclides in the fourth century before Christ, when he declared that Thrasylaus was once afflicted with violent madness but he recovered, and after his recovery he informed his friends that he had never been happier in his life than during his attack of madness; for he never felt any grief, but that the quantity of pleasure which he had experienced was something unspeakable.

And in Xenophon's *Memorabilia*, Socrates says that madness or insanity is the contrary to wisdom or prudence. He did not regard ignorance as madness, but he thought that when a man was ignorant of himself and fancied and believed that he knew what he did not know, i. e., when he was ignorant of his own ignorance, he was bordering closely on madness.

It is also interesting to know in passing that the word mania, or madness, was once applied to the beautiful Athenian courtesan, Melitta, who was not only the mistress of Demetrius, King of Macedonia, but who boasted of many lovers who, passionately enamoured of her, referred to her during conversation as their mania or madness, until the name "Mania" prevailed and she was so addressed thereafter.

Unsoundness of mind does not necessarily mean insanity, for there are many with unsound minds whose relationship to their circumstances

and their environment is not seriously affected. Unsoundness of mind may arise from some dysfunction of the nervous system which has little, if any, effect on the social life of an individual, but which may interfere to some extent, as I have said, with the normal reaction of a person to his circumstances.

By phallicism we mean the worship of the generative principle in nature as symbolized by the phallus, or the male organ of copulation; and when sex-worship is considered comprehensively, it includes the yoni, a Hindoo name for the female organ.

In a general way sexual perversion may be defined as the possession of impulses which lead to sexual gratification in an abnormal manner, with a partial or a complete apathy toward the normal method. A sexual pervert is a person with abnormal sexual instincts which he indulges whenever an opportunity arises for such indulgence. He turns aside from the natural plan and method of coitus. "Mens sana in corpore sano" cannot be said of a sexual pervert, although it must be admitted that many have had the capacity to achieve much that is commendable.

When our Creator endowed man with reason, together with the gifts of conception, intuition, and judgment, thus elevating the human mind in the greatest possible measure above that of beasts, it enabled him to distinguish truth from falsehood and right from wrong. This faculty of determining whether our actions are just or unjust, good or bad, we call conscience, and whether it is sufficiently active to occasion remorse or compunction of heart, or whether it is in a state of quiescence and apparently absent from the human mind, all men possess it, because it is a divine attribute bestowed upon reasoning creatures. God gave to beasts instinct alone, that natural and unreasoning prompting or suggestion to act without a distinct apprehension of the end to be achieved or the object to be accomplished. Without the faculty of reason the beast could have no conception of good or evil; of improvement or change in the method of union or satisfaction; its actions were guided solely by natural impulses. But man, possessing reason, which places him upon the highest plane above the status of the brute, thereby aiding him in perceiving and knowing about human and divine affairs—about good and evil—man, I say,

has for ages cudgeled this reasoning brain and exhausted his ingenuity in his efforts to discover new and different methods of sexual gratification and pleasures, or a means to awake and stimulate and spur ahead a waning and fast declining passion.

What do we find in the final analysis of man's attempts to change natural into unnatural practices—what is the outcome of strictly following or basely abusing the Creator's wonderful plan of procreation when the sexual practices of both men and beasts are scrutinized and considered, and when the scale of time and life is set to measure and weigh their actions—their achievements and their failures? In order to understand what men have accomplished or what they have destroyed by foul habits begotten in the darkened recesses of the human mind, we have to study man to find the answer. The problem is not a difficult one. Lifting the veil of our own hearts and peering within, what do we see hidden there? Do we not find that the creature, man, has for ages violated and debased his own body and mind—that he has made use of this God-given faculty of reason to abuse himself by searching for unnatural means of sexual gratification and other sensual pleasures? Can we not see that he has sought to discover newer means to whip and spur along a passion which, in many instances, is already jaded and near exhaustion?—to find novel but baser methods to improve upon the natural way implanted by his Creator at birth? And what is the summa summarum—the sum total of man's dissatisfaction and aversion to nature's plan, and his zealous searching for sexual stimuli and something new? What is the nature of this vast array of human flotsam and jetsam bobbing and swirling along in the wake of man's passage across the sea of life? The result is, as I view it, that this man and his father and his grandfather, and on back through antiquity, his kind—the male human being, in particular, has continued to drain away to excess that vital principal, that secretion which is the embodiment of perfect manhood and without which a man is not a man, until his confidence and his self-respect become attenuated or are lost, and in their place we find irritability of temper, secretiveness, groundless suspicions, moroseness, or gloomy apprehensions of impending trouble or disease or disaster. Finally his strength of body and mind becomes impaired,

his self-control becomes a spectre of past years; he falls and accepts unnatural pleasures; and then, perhaps, after a period of dejection and remorse he rallies, determined to abandon it all, only to fall again and again. This battle with carnal desires continues until, in the mire and despondency of a troubled conscience he realizes, too late, that he has effaced the real purposes of life—of libido, and worshiped in the lustful temples of Venus and Bacchus too long; that he has undermined and weakened his body and his nervous system, and that he has sinned with himself and against nature—against an inexorable God. It is but a succession of steps or degrees in this process of disintegration or dissolution until he becomes temperamental, or peculiar, or eccentric; his weakened body and mind loses its resisting powers against temptation; various types of neuroses supervene and continue on through many gradations until unsoundness of mind or insanity may appear.

But what about the animals of the air and the fields and the deep—the dumb creatures imbued only with instinct, who are still propagating in the same manner and as often as they did when men like Jacob lived 445 years, and Noah lived 950 years, and Mathusala lived 969 years? Where is anything mentioned or authenticated which might give credence to an assertion or even warrant a supposition, that there has been any material change in the bodies and the brains of our domestic animals within the last five or six thousand years? This statement is made with due consideration for the period of time a year may have covered when men and animals first came into being. Are not cattle and sheep the same today as they were ages ago when primeval men of the stone age used them as the first money and as the first animals sacrificed to their rude gods? Who can deny and prove that their span of life is not the same today as it was when the first of these creatures began their struggle for existence? If the general contour of man's body and of the organs and members and tissues of his body have not changed, and there is no proof whatsoever that such changes have occurred which a reasoning and receptive mind could accept—if a man's body has not changed, I say, then it is not reasonable to believe that a change has occurred in the contour of the body of a horse or a cow. And if no great change has taken place in the shape of a man's body or a horse's body,

what has caused the great difference in the age of men, while horses and cattle live as long now as they did when Mathusala lived, although both have been subjected to the inroads of disease and the ravages of time? Over-indulgence in copulation and the acceptance and practice of perversion is, I believe, the underlying cause responsible for the shortening of human life and much of our present day insanity.

In bringing before you the subjects of sexual perversion and phallicism together with vice, I realize that they are dangerous topics when they are discussed outside of a medical meeting and before the illiterate, or in the presence of the impressionable and plastic minds of adolescence. Indeed, it is well, I think, that the most of the books on phallicism which have been published are kept securely under lock and key in the libraries where they are found. You gentlemen know that much of the writings on these subjects are purposely salacious for monetary gain and in order to please the prurient minded. And such books undoubtedly have a confounding effect on the immature and inexperienced and receptive mind very like the alluring and seductive booklets of the charlatan which influence and befuddle the bewildered man seeking a cure for his venereal disease; or the same as they confuse the neurasthenic who daily follows a will-o'-the-wisp in search of a remedy for his oft-times imaginary ailments.

I think it was Tardieu who said that if a physician is obliged to see all things, let him be permitted to say all things. Especially is this statement applicable in a paper of this kind and before a body of medical men. I think, moreover, as many physicians do, that it falls within the sphere of the physician and of him alone to discuss such subjects as sexual perversion and phallicism publicly.

Although it is often a severe test of one's magnanimity to sympathize with or even brook one of perverted sexual practices—one who may be ostracized and classed with outcasts, yet some one must offer aid and a friendly harbor to this human derelict. That task usually falls upon the physician, who is taught and knows that a pervert is often an unhappy victim of mental and moral misery of the most pronounced type, and that he is not altogether to blame for his condition regardless of the manner in which we may think he acquired it. He is neither normal

nor natural. Granted, he may be without pain or fever, and free of neoplasms, but he is a sick man anyway.

Heredity may have much to do with his condition, and another mitigating circumstance which should be borne in mind is that it is not because of his own choosing he came into the world. Perhaps his father and mother kept the seeds of perverted tastes well watered and cultivated during their lives, and then passed the rank smelling, but luxuriant plant on as an unwelcome heritage or sensual propensity, to their offspring. How often do we, as physicians, see the child bearing an added load of human misery which is directly traceable to the ignorance and the folly, and the complete apathy toward the practice of self-control exhibited by that child's parents.

Sometimes when I regard a newly born child, and when I consider the temptations of the flesh and the sorrows and the deluding joys which will be a part of his life later on, together with the dross of sins and weaknesses inherited from his parents or allotted to him through atavistic channels, I think that the writer in Athenaeus was somewhat justified when, in the second century before Christ, he wrote:

"And so, as many wiser men have said,

Not to be born at all is best for man;

The next best thing to die as soon as possible."

And I wonder, too, if the inhabitants of ancient Thrace were actuated by the school of experience, and were they acting in harmony with what life promised them, and eventually bestowed upon all of them, just as life parcels out a leaven of sorrow to all men living today, when we read that the Thracians held wailing parties for the newly born child, deploring the many evils he must contend with throughout life, and the various sufferings incident to mankind. But when a person died they made merry and rejoiced, offering sacrifices to the gods who had conferred the boon of death upon the favored person, while they recounted the many evils from which he had been released.

When the world-long abuse of man's sexual powers is considered attentatively, I think that there is no credit too great for the old man who, peering into the mists which sweep along that shore where the faithful pilot ever sits and beckons, sighs for the last time and then wearily totters on and takes his place in the waiting boat,

while the old ferryman carefully scrutinizes the aged man's passport upon which is deeply graven, "Blessed are the clean of heart for they shall see God." And as he heads out into the stream for the shadowed shore and worldly things disappear from his sight forever, the old man realizes with a deep sense of joy and satisfaction that he labored unceasingly against the temptations of the flesh and the world, until he finally conquered and became the master and the ruler of his passions. He leaves no encomiums emblazoned in shining epitaphs, no monument remains a prey of the crumbling elements of time, or as an ivied object of interest to the curious in future days. No marble bust of him adorns a niche in the Hall of Fame. He dies and he is quickly forgotten. And yet this old man has, perhaps, fought a disheartening but a winning battle against his passions which is more worthy of laudation than were the victories of a Darius, an Alexander, or a Caesar. The name of the old man who became the ruler of himself—a king in his own domain—is forever erased from the minds of men and swallowed up in the sea of oblivion. The good is interred with his bones, while the names of the Caesars live. But still, as Horace says in his *Epistles*, "he has not lived ill who at his birth and death has passed unnoticed."

Candor in our dealings with moral derelicts or the sexually abandoned, and a benevolent attitude toward them in so far as one is able should be our purpose and our duty, however unpleasant the task. Especially should a jurist be considerate and lenient when such persons occupy his attention and appear in courts of law. Few stones would be cast if only those without sin or moral blemish and undefiled threw the stones. Leniency in such cases where the morally unclean are involved does not mean sanction or condonation. A truism in Cicero's *Moral Treatises* is quite applicable here, and it is patent that that immortal recognized the inherent weaknesses of human beings just as have all wise men since the beginning of time. He says, "All that is excellent is rare: nor is aught more difficult than to find anything which in every respect is perfect of its kind." Pliny, too, declares that of all other virtues the most becoming is a lenity of disposition toward the slave of vice, and he epitomizes it all by informing us that *Thrasea* used to say, "He who hates vice hates mankind."

Horace adds this, "For no one is born without vices; he is the best man who is encumbered with the least. He who requires that his friend should not take offense at his own protuberances, will excuse his friend's little warts. It is fair that he who entreats a pardon for his own faults, should grant one in his turn."

We are told that at one time in the world's progress there was a golden age, an age when pure simplicity and innocence existed. But it is hard to reconcile one's mind to this thought when we know that the first man born into the world killed the second. A golden age is a myth, the nectar and ambrosia of dreamers. A golden age never existed and will never be enjoyed in this life.

And in order that you may be further reminded that men gave expression to other noble sentiments concerning the problems of human life during the flourishing eras of phallicism, let me quote again from Cicero, who says: "Troubles and misery oppress thee who thinkest thyself happy and prosperous. Thy lusts torment thee, day and night; thou art on the rack; look where thou wilt, thy crimes, like so many furies, meet thy view and suffer thee not to breathe. Therefore as no man can be happy if he is wicked, foolish, or indolent, so no man can be wretched if he is virtuous, brave, and wise. . . . Crimes are not to be measured by the issue of events, but from the bad intentions of men." Saint Jerome comments on this same thought, saying, "Our vices oblige us to play many characters, for every vice wears a different mask. Thus in a theatre, the same person plays a robust Hercules, a dissolute Venus, and a furious Cyclops." And the deductions of Xenophon about vice is shown in his *Memorabilia*, where he gives the words of Hesiod, as follows: "Vice it is possible to find in abundance and with ease; for the way to it is smooth, and lies very near. But before the temples of virtue the immortal gods have placed labor, and the way to it is long and steep, and at the commencement rough; but when the traveler has arrived at the summit, it then becomes easy, however difficult it was at first."

In reviewing the peoples of the world during the early ages when phallicism flourished, I beg your indulgence while I recall to your mind salient points of interest concerning them. For, everything that transpired during that time—all of their activities and achievements and their

failures, and especially everything they did which can be termed good or evil—has, I believe, either directly or indirectly, influenced or left its impression to a greater or lesser extent upon the minds of all who came into the world after them. Much could be written if time permitted that is interesting and beautiful—some wonderful and some terrible—but it is all fascinating. And the delver in the old of the past is rewarded with many surprises and pleasurable findings as the strata of the ages are removed one by one, until he comes nearer and nearer the conclusion that much in human nature is the same the world over, that it has always been the same, and that there is very little which can be properly termed new. Just as the seed of vice lived long ago and bided its time until it fell upon a soil fertilized with the dregs of iniquity, in like manner almost all that is material and spiritual today may be visualized in embryo in the dim past and practices of former ages.

Let me now direct your attention to some of the peoples who lived during phallic times in order to show that although they were sex-worshippers, some of their achievements excite wonder and deserve commendation, especially when we consider that they knew comparatively little about metals, and practically nothing about the use of steam, electricity, and many other things in present day use.

About 500 years before Christ appeared among the shepherds in Bethlehem of Judea, Herodotus, of Halicarnassus, the Father of History, spent a great part of his lifetime traveling through Egypt, western Asia, and southeastern Europe, which then comprised the so-called civilized world, and distinguished the inhabitants of those regions from tribes they were pleased to call the barbarians. The knowledge he gleaned during his extensive travels through close observation and from a study of the sex-worshipping peoples of those remote days we read in his fascinating history, than which it is difficult to find an account of the ancients more interesting. Without any apparent effort and without ostentation and pretentious parade, he impresses us with the high state of civilization the Greeks and the Egyptians and the Persians had reached in many branches of knowledge, and he tells us about their scientific investigations and their beliefs and opinions concerning astrology, geology, mathematics, and meteorology, of diseases and

medicine, and the achievements of the races in military operations.

We learn that the Egyptian men and women reversed the order of present day practices by eating outside of their houses but entering them to ease themselves; women attended to natural functions of the body standing up while men crouched down; dough was kneaded with the feet and dung was gathered up with the hands. With few exceptions almost all the races inhabiting the earth at that time believed that if the gods permitted dogs and cats and birds to propagate within the sacred confines of their temples, it was no sacrilege for them to do likewise, so they acted in unison with the dogs and cats and birds. The men and women of many nations had promiscuous intercourse and did not cohabit, but associated like beasts, which necessitated a meeting of the men of each tribe about twice yearly to choose fathers for the grown up youths, for it was immaterial who begot the female children. This prosaic ceremony was accomplished by choosing that man as a father who most resembled a young man, which matter of fact event was no doubt in Shakespeare's mind when Launcelot says, "Nay, indeed, if you had your eyes, you might fail of the knowing me; it is a wise father that knows his own child."

Continuing, the Father of History describes the task in which 100,000 men were engaged when the pyramid of Cheops was built, the account of which you are all, no doubt, familiar with. He informs us regarding the manner in which the huge stones in the pyramid were moved and lifted from one tier of steps to the next as the pyramid rose higher, but we know nothing about the manner in which the great blocks were transported over the long distance from the Arabian Mountains except that levers and rollers were employed. For very little was known about iron at that time. Had he told us about the immense ropes and capstans and ships used at that period, and in all probability employed long ages before the building of the pyramids began, we would have less difficulty in understanding how such immense blocks of stone were drawn long distances over land and transported over a wide body of water like the Nile. For you know that when Xerxes, the son of Darius, built his bridge of ropes and boats across the Hellespont, or the Dardanelles, about 500 years before Christ, and over which we are

informed five million men passed without halting for seven days and seven nights, he employed cables of white flax and papyrus which were so large and powerful that a cubit or 18 inches weighed 57 pounds. The average width of the Dardanelles is 3 to 4 miles, but at one point the width is a mile, and no doubt this marks the position of Xerxes' bridge.

And that the great ships of Ptolemy Philopater were sufficiently large to sustain tremendous weights such as we find in the stones of the pyramids may be assumed when we are reminded by Athenaeus that "some of these vessels were 420 feet long, and that when one put to sea it held more than 4,000 oarsmen, 400 supernumeraries, 3,000 marines, and besides another large body of men under the decks." The ships of Hiero, King of Syracuse, who reigned about 500 years before Christ, were equally as large and wonderful and equally as fit to sustain great weights. One which was afterward sent as a present to Ptolemy, the King of Egypt, was very like a floating city, containing as it did banquet halls, apartments for the soldiers and others, a gymnasium and walks covered with awnings, gardens of wonderful beauty adorned with all sorts of plants and shaded with roofs of lead and tiles, and with mosaic floors upon which was depicted in figures the whole story of the Iliad. Besides, the ship contained a temple devoted to Venus and the devotees of the phallus, with floors of agate and other beautiful stones tessellated therein, and the walls were embellished with pictures and statues and with goblets and vases of every form and shape imaginable. There was a drawing room, and bath rooms with hot water, and stalls for horses, rooms for arms and furniture and wood, and kitchens for ovens and baking places. This ship was provided with cisterns and wells made of timbers surrounded by heavy canvas soaked in pitch, and some of the cisterns contained large numbers of fish. Great catapults on this ship threw 18-foot arrows to the distance of a furlong, or 660 feet. The ship was covered with lead plates, reminding one of armor plate on men-of-war today, and such great care was observed in building the ship that the heads of nails were sunk and covered with cloth and pitch to prevent erosion from sea water.

During the time when the world was withering under the insidious and malignant influence

of phallicism we are told that on one occasion water was conveyed through pipes made of dried ox hide and other dried skins to reservoirs in a desert a distance of twelve days' journey in order to supply an army posted there later on. We learn that water was sterilized for drinking purposes; that there were specialists among physicians; that the term of an Ethiopian's life was placed at 120 years, while 70 to 80 years marked the age limit of other races; and that the Scythians killed and ate the aged, and aged persons considered it a glorious death to die that way rather than from disease. The Persians, we learn, had thin skulls because they wore tiaras or hats, but the Egyptians had thick skulls and were seldom bald because they left their heads uncovered; that Pheron, the son of Sesostrius, sought a cure for his blindness by washing his eyes in the urine of a woman who had had union with her husband and no other man, and that he made many attempts before his eyesight was restored; and that the Ethiopians embalmed their dead and then placed them in hollow columns of crystal so that the bodies were visible at all times.

Continuing on with this account of so-called barbarians and phallic worshipers we are informed that the Scythians used the scalps of their enemies for napkins; and that women in one tribe of the Libyans placed bands of leather around their ankles every time they satisfied a lover. And, finally, we read how Xerxes wept when he reviewed his army and navy of five million men, lamenting that not one would survive to the 100th year; and again we are reminded of the unparalleled bravery of Leonidas the dauntless Greek, who with only about 4,000 other Spartans met and finally defeated Xerxes' army of five million men, mainly because the Greeks spurned death and knew how to fight as a unit and did fight, and even fastened themselves to trees or heavy objects so that they might die fighting with no opportunity to retreat.

Although the world was steeped in phallicism, and there appears to be no distinction between the practices of the great and those occupying the lowest castes or stations in life when sex-worship is considered, it can be readily understood by a study of ancient writings that the faculty of reason and the natural instincts in man led many at that time, and down the ages, to think and dream of a higher sphere and an

after world where virtue was rewarded; a place created by some great Power to reward reasoning beings when this life was terminated.

The Egyptians we are assured were the first to declare that the soul of man is immortal, and although they adhered to the belief that when the body died the soul entered another creature, yet one can perceive that they, like all men, perhaps, since the beginning of time, yearned for a state of blissful after-life—a place where the just and the good are rewarded for their attempts to do unto others as you would have them do unto you. Herodotus, himself a pagan, in relating the story about beautiful Helen of Troy, who precipitated the Trojan war, shows that he believes this life was but a preparation for eternal life, and that the recompense of sin was death to the body and to the soul. He says, in discussing the rape of Helen and the punishment of her ravishers, "I declare my opinion, the divine power caused them utterly to perish, and so made it evident to men that for great wrongs great, also, are the chastisements which come from the gods." Cicero, about a century before Christ, a pagan and a phallic devotee, also evinced the natural desire of immortality in his essay on Friendship, where he says, "Nor do I agree with those who have lately begun to assert this opinion, that the soul also dies simultaneously with the body, and that all things are annihilated by death. The souls of men," he says, "are divine, and when they have departed from the body, a return to heaven is opened to them, and the speediest to the most virtuous and just. Which same opinion was held by Scipio; for he, indeed, a very few days before his death, as if he had a presentment of it, descanted on the immortality of souls."

Quintilian voiced a sublime sentiment, too, about immortality during phallic times when he declared, "If the universe is conducted by a superintending Providence, it follows that good men should govern the nations of the earth, and if the soul of man is of celestial origin, it is evident that we should tread in the paths of virtue, all aspiring to our native source, not slaves to passion, and the pleasures of the world."

Tacitus, another pagan, who was born about twenty years after the crucifixion, and who held the highest rank among the historians of Greece and Rome, although he first spoke of Christianity as a "dangerous superstition" and classed it

with "everything infamous and abominable," discloses by his later writings that he agreed with the precepts of philosophers of his day who wrote "Deum cole, atque crede, sed noli quærere." And in his beautiful and pathetic apostrophe to the great Agricola, his father-in-law, he bespeaks the longing for immortality when he says, "If in another world there is a pious mansion for the blessed, if, as the wisest men have thought, the soul is not extinguished with the body; may you enjoy a state of eternal felicity."

The Socratic and Platonic professors declared for the immortality of the soul, too, and some of their proofs are short of nothing but revelation, although almost all of them clung to the devitalizing practices of phallicism. But Cicero compresses the whole force of argument embracing the doctrine of immortality when he writes, "That which feels, which thinks, which deliberates and wills (meaning as you know a human being) is of heavenly origin, and for that reason must be immortal."

And so we may continue with this strange account of the vicissitudes of the wisest as well as the most illiterate peoples who in some measure indulged in sex worship during past ages. Virgil sang his lays to the muses in a manner unsurpassed for elegance of diction, while his barbaric contemporaries tore the limbs from beautiful females during struggles to carry them off as prizes when engaged in drunken orgies and while sacking the cities of their enemies. The story is related of a king who reigned at that time and who was such a pronounced voluptuary that he never put his hand lower than his navel, which caused some one to remark that his hands are clean, but sure his mind is not. And another king of the same type lived then who, like many living today, thought all human affairs not worth the snap of the fingers, and who ordered a hand with the fingers in the position of snapping sculptured on his monument, and placed above this epitaph, "I was the king, and while I lived on earth and saw the bright rays of the genial sun, I ate and drank and loved; and knew full well the time that men do live on earth was brief, and liable to many changes, reverses, and calamities. Eat, drink, and love; the rest's not worth the snap of my fingers." Another striking example showing that phallicism encouraged one to give heed to present

enjoyment only, and demonstrating that its teachings led the devotees of sex-worship into voluptuous paths where virtue was often erased from the human mind.

Comes now Alcibiades, the Athenian, and Axiochus during phallic times, both of whom married one woman and afterward cohabited with the daughter born of that union when she grew to womanhood, both contending that neither one could determine who was the girl's father. Cleopatra married her brother Ptolemy, and King Darius and King Cambyes married their sisters. Nero had illicit relations with his own mother, finally put her and his brother to death, kicked Poppea, his wife, to death, and filled his cup of perversion and degeneracy to overflowing when he personated a woman and was given in marriage to two different men: first to the dissolute roué Pythagoras at the feast of Tigellinus, and a second time to Sporus, an eunuch, consummating the nuptial contract in both instances publicly.

Continuing on with this hotchpotch of phallic peoples we find that the Sybarities, 720 years before Christ, had laws forbidding braziers, smiths, carpenters and others who practiced noisy arts from dwelling in their city, and it was unlawful to rear a crowing rooster in that city, that their slumbers should always be undisturbed. Another law, passed at that time, forbade a woman appearing before judges when she was under prosecution. This was occasioned by Phryne, a beautiful courtesan, who posed as a model for painters and sculptors, and who had swayed the minds of her judges once when she was about to be condemned to death, by tearing open her tunic and displaying her body to the sitting judges. And women still carry on, and men acting as jurors are influenced in much the same manner today.

Penalties for crimes consisted in branding the belly of a gluttonous slave, the feet of a fugitive, and the hands of a thief. Boiled cabbage was used as a sobering remedy; men drank wine not because they were thirsty at that moment, but for fear they might be presently, and wine was so strong that on one occasion three young men in a house became so drunk that they threw all the furniture and chairs and sofas out of the windows in order to lighten the ship they believed they were sailing on. Men considered onions an aphrodisiac, and believed that lettuce,

which they termed food for dead men, subdued the passions; life was so cheap that hanging parties were engaged in as a pastime; Diogenes would have it understood that he did not have *pediculus corporis*, but that he scratched his stomach in order to rub the poverty out of it; lazy men lived who wished to grow fat in their heart and stomach, lie flat on their back, never say a word and waste away and die with pleasures; while another said if it pleased the gods he invoked them to permit him to eat and burst and die in that manner. Some led such a life of dissipation that they seldom saw the sun rise or set; men-flappers infested society at that time and painted their faces and penciled their eyebrows and bathed in perfumes; and, lastly, it appears that all men during phallic times agreed that any respectable and virtuous man would occasionally get drunk.

Finally we learn that wise but egotistical men lived then as they do today. Alexander would have us believe that flies and mosquitos became a superior class when they sucked his blood; Cicero avers that all mankind thought that Rome had gone into exile when he departed from that city; Nero, the worst of perverts, has himself deified, and flattered himself that he should soon be able to control the ways of Providence; and Socrates says (concerning himself) that he is moved by certain divine and spiritual influences, and that it is commonly agreed that in some respects he exceeds the generality of men. Again in Plato's *Apology* we see more egoism when Socrates spoke in his defence before the Athenian judges when he said, "For if you should put me to death you will not easily find such another . . . such another man, O Athenians, will not be easily found; therefore, if you will take my advice you will spare me."

With this somewhat desultory story and review of ancient sex-worshipping peoples fresh in our minds, let us now pick our way cautiously down the webbed and darkened steps of phalacism for a while, and dust off and bring out into the light and before your attention only enough of this mixture of iniquity to carry on this paper to a conclusion.

We find that the sex devotees worshiped at the shrine of, and sacrificed to many gods of mythology. The principal festivals celebrated in honor of Bacchus and Venus were designated the *Bacchanalia*, the *Saturnalia*, and the *Aphro-*

disia—the last being the *radix* of the word *aphrodisiac*. On the occasion of these festivals the women, young and old, took an active part in them, and carried throughout the main thoroughfares of every village figures of men about 18 inches long, made of wood or other material, to which was attached a pendant phallus almost as long as the manikin itself and which was worked by strings. Or long processions were formed at the head of which the figure of a phallus reclined in the most magnificent car obtainable, or a gold-bedecked chariot or wagon bearing an immense phallus resting on silken pillows and shaded under a richly decorated canopy, was slowly drawn through the festive and merry throngs by gaily caparisoned horses, while Lydian airs of the flute or the lyre and the harp floated over the multitude. For them it was a religious celebration of deep significance—an occasion for universal rejoicing and happiness heralding the Divine Regenerator. It was the awakening or budding time of all life, the quickening of all animate nature. While some repaired to the temples to worship the divine symbol (the phallus) and invoke the aid of that deity in securing fruitfulness, others sang hymns or paens of praise to the phallus and annointed it with choice wines and honey or perfumes, and they placed garlands or chaplets and roses or leaves of the oak around the sacred emblem, finally crowning it with wreaths of ivy entwined with the violet and the blue of the hyssop, in much the same manner as a beautiful maiden is crowned Queen of May.

When the shades of evening deepened and drew the screen between decency and profligacy, the excited and passionate devotees of the phallus threw all restraint aside and gave way to unbridled sensuality and licentiousness. Many believed in living a short life and a gay one and they no doubt considered one behind the times who still acted in accordance with the original significance of phallic worship, namely: the desire of fecundity—the desire for offspring. They believed that beauty when unadorned is adorned the most, and an old writer remarks that it was a beautiful sight to observe the young men and women of Sparta naked and wrestling with one another during these festivals.

As in ancient times images of the phallus and the yoni were set up by the roadside, in front of the doors of dwellings and in sacred groves

and temples, we find these phallic emblems of sex worship in one form or another in many parts of the world today. In the long ago women considered it a sacred duty to bear children, and at certain seasons of the year they visited the temples and offered their bodies to any man who chose to make known to them his purpose. A rope or other barrier separated the men from the women, but when a man tossed a coin to the object of his choice it was her duty, regardless of her station in life and the size of the coin to attend him into one of the numerous alcoves of the temple and there consummate the act. Once a woman entered the temple she remained there until one of the opposite sex tendered a sacred coin to the phallic deity and performed the act of coitus with her. It is perhaps needless to state that the most beautiful women were chosen first, and it is said that some not blessed with a beautiful face and form remained in the temple several years.

At that time a woman who prostituted her body to their deity was considered sacred, and a man who castrated himself in a religious frenzy and then ran through the streets holding the bloody parts aloft, thereby heralding the sacrifice he had made in presenting his generative powers to their god, was ever after regarded with esteem and veneration and as one possessed of divine attributes, and he became one of the priests of the temple. Venus was regarded as a prostitute, and many prostitutes, or courtesans, reached high places in the minds of men during those ages when phallicism and prostitution went hand in hand. Monuments were erected in memory of courtesans, plays were named after them, and one became a queen. Themistocles and Timotheus were the sons of courtesans. Cyrus and Alexander, Demosthenes and Diogenes, Aristotle and Plato, and almost all kings and eminent men of those ages enjoyed the companionship of many courtesans besides their wives. Quoting from Athenaeus in the *Deipnosophists* we read that even philosophers were far fiercer than dolphins and elephants, and much more untameable, when their passions were aroused, although the general conception of staid philosophers is one of quiet reserve and unruffled serenity.

In Japan today we still find patent evidence of phallic worship, and almost every brothel in Japan has its symbol of the phallus conspicuously displayed above the entrance or within.

The inmates of these brothels are often chosen for wives without any apparent hesitancy, and the fact that they have served the purposes of many men is forgotten in the associations of the conjugal union. Indeed, it is often the custom among the Japanese to marry a woman only after she has resided for some time in houses of prostitution, called there tea-houses. Apparently they are of the same opinion as was Aristippus, when in answer to Diogenes, who had rebuked him for cohabiting with *Lais*, a common courtesan, he replied—"Is it an absurd thing to live in a house where other men have lived, or is it an absurd thing to sail in a ship in which other men have sailed? Well then it is not a bit more absurd to be in love with a woman with whom many men have been in love already."

The nakedness of women is not considered immodesty by the Japanese. And she is of no intrinsic worth to him except as a means to sexual indulgence; she is his property but never his equal. She is valued in marriage only as a means of enjoyment and satisfaction, to keep his house in order, and for the bearing of children. This attitude toward their Japanese women, together with phallic worship, is in strange contrast to the frank hostility displayed by the Japanese to our moving pictures which sometimes depict the act of kissing, for we are informed that kissing is interdicted or frowned upon in the land of earthquakes, while phallicism still continues and prostitution is carried on openly by the *Geisha* girls.

Travelers inform us that there is a shrine with a phallus four feet high, eight miles from Akashi, near Kobe, and during certain Shinto festivals tiny paper flags bearing the legend *Osame tatematsura* (respectfully dedicated) are stuck upright in the ground about the symbol. As late as 1874 phallic worship was almost universal in that country, and the symbols were to be seen in many places where they were worshiped by the barren of both sexes. Some were a hundred feet in height. It seems, however, that when Japan lowered the barrier to foreigners the remonstrances of persons from Christian countries resulted in the disappearance of many shrines with their phallic emblems. Some of the smaller phalli were carried away by the curious, while others found a watery grave in some nearby river or lake, or else they were dumped into the hidden passages of a Buddhist temple, where let us hope

the deposits of time may effectively screen them from the sight of man forever.

Phallic worship is still blindly accepted in India and to a much greater extent than in Japan. There the phallus is called the *linga* by the Hindoos and it is estimated that there are thirty millions of them in that land of Buddha. There, too, they are found in dwellings, in sacred groves, and in the temples of the Hindoo, and the people still follow the old phallic worship of former times, celebrating the festivals of Venus and Bacchus with as much ceremony and eclat as the British laws will countenance. Beautiful Hindoo girls still sacrifice themselves to this sexual god and live in the temples where they consecrate their bodies to that deity, and devote their lives to the satisfying of any man who pays them the fee which is given as an offering to their strange god and used for their support and the maintenance of the temple. Sacred prostitution of women is a very old custom. Records show that women prostituted themselves in the temples of Babylon and Ninevah two thousand years before the Christian era, and that children born of such unions formed a superior class as they do today in India.

In 1865 American travelers saw numerous figures of phallic gods and of kings on the walls of the temples at Thebes depicted with a phallus. Many other archaeologists since that time have discovered similar objects of curiosity during their excavations in Italy, Greece and Egypt. And until recent times tribes on the lower Congo river and the Dahomnians worshiped gods made of wood and clay with a phallus in position. The natives of some of the southern Pacific islands and some of our own Indian tribes still adhere to a religious ceremony in which a young man and woman engage in coitus publicly and without shame, while surrounded by other members of their tribe, who first consecrate the ground by sprinkling it with sacred wine, during which they add to the solemnity and mystery of the ceremony by droning their paens and wailing their incantations. Sex-worship was followed and accepted in one form or another in Egypt, Assyria, Greece, Rome, India, China, Japan, Scandinavia, Mexico, Peru, Borneo, Tasmania, Australia, England and France long before history was written. There is no country in which worship of the generative organs has not taken place some time in its existence.

The phallus was usually made of wood or clay or stone, and sometimes it was made of gold or other metals. In the Walker Museum at the University of Chicago and at the Field Museum there are phalli shaped out of cast iron, volcanic stone, and some of wood that were taken from shrines and brothels of Japan and from other countries. Some are stained pink and some are gilded and painted in various colors, while others are chased with queer designs or fashioned into grotesque figures. Many phalli were used as amulets during phallic times, and were worn suspended over a child's shoulder or like a lavalier they adorned the necks of women.

It rested with the ancients, however, and their progeny, to discover objects which resembled the phallus and the *yoni*, or bore some of their characteristics and alleged attributes; and in many instances these material substances were worshiped and were invested with divine significance. It appears that their imagination knew no bounds. Nearly everything which bore the slightest resemblance to a phallus or the *yoni* was regarded as imbued with sacred attributes, and it became an object of sex-worship. And some writers on phallicism have not scrupled to describe all of these things in detail with much unnecessary salaciousness, and quote freely from the bible in their endeavor to prove some insignificant point concerning them and phallic worship. Some of the annotators on sex-worship at least demonstrate one thing clearly, namely, that if one chooses and his arguments fall upon receptive soil, he can prove almost any tenet or doctrine by the bible, and he can then become a true sophist and disprove his original statements by other scriptural writings.

Interesting, too, were the pillars and obelisks shaped like the phallus during the period when phallic worship was at its culmination; the towers of the temples were so constructed that they were cylindrical with a conical-shaped roof. And even a pole set up in a village was a symbol of the phallus around which worshipers danced and clapped their hands and sang their ecstatic and erotic praises during the spring of the year to the god of reproduction. Straight trees were venerated and the oak was considered a sacred tree because of its strength and longevity and it was likened to the age-long power of the phallus.

Any animal which possessed unusual sexual energy, such as the bull, the goat, and the cock,

were also invested with sacred attributes, and Herodotus relates that Egyptian women were sometimes buried with the phallus of a bull. The goat was regarded as such a sacred creature that the ceremony of permitting a ram to meet with a woman in public was done as a sacrifice to the gods, a striking example of the indecency and the debasing influence of phallicism. And it is related that the practice of using a goat in some of the initiation ceremonies of secret orders today is merely an echo of the mystic rights of the ancients in which the priests and priestesses of the heathen temples were required to be initiated into the mysteries of the goat before they could be admitted to the divine rites of Isis, the goddess of fecundity. The god Pan, you know, is depicted as half man and half goat, and Herodotus tersely remarked about this mythical creature: "The cause, however, why they represent him in this form I prefer not to say."

Because the tortoise is androgynous the Hindoos consider it a sacred representative of the creative deity, mainly on account of its great fecundity and length of life. Its head and neck, suggested to the Hindoos an important emblem of phallicism and it is so regarded and worshiped.

Perhaps there is no instance, however, where the phallic worshipers permitted their imaginations to run rampant to as marked a degree as when they compared a serpent to a living phallus and worshipped it accordingly. It was a custom in some countries for processions of virgins to carry living snakes in their hands or draped about their necks while singing and shouting the praises of the sacred symbol, and the snake dances of some of the Indians in Arizona are almost identical with that practice.

But even though the serpent was protected and venerated as a thing sacred over a great part of the world at that time, this respect and reverence changed to aversion and an abhorrence for the slimy snake as time passed, and it was finally regarded as a symbol of the tempter and his evil teachings by the people of many nations. In the course of time it was advanced to the first rank as the source of much that is evil, especially in Christian countries, the archetype of sin—the devil himself, symbolic of all that was unchaste and lustful. When Adam and Eve fell from their state of inherent grace and gave loose reign to the promptings of their sexual desires, the serpent was credited with their downfall and the

cause of their expulsion from the garden of Eden. Many are the histories of antiquity ascribing the root or source of evil to the serpent, and exhibiting an entire nation sinking under the ravages of a single serpent. Indeed, histories of even recent times concur in this belief and teach the same doctrine. This allegorical picture of sin and its inevitable consequences is none other than a portrayal of the voluptuous and licentious liberties engaged in by phallic worshipers, which finally led to the physical and intellectual decay of any nation adhering to its tenets and the vicious practices growing out of it—liberties which served as a foundation for insanity and the shortening of human life.

The yoni, which was the female symbol of procreation, was more difficult to typify than the phallus. Many objects worshiped in the sacred rites were made in representation of the female breasts or the mons veneris. Usually, however, the yoni took the form of an opening, and it was called the door of life. As a rule it was pictured with a winged cherub hovering over it, or a celestial archer with his quiver filled with arrows. For the arrow, too, was one of the oldest phallic emblems. Cupid with his quiver filled with arrows was a symbol of the virile organ. Reading psalm 127 we find: "Lo, children are an heritage of the Lord; and the fruit of the womb is his reward. As arrows are in the hand of a mighty man, so are children of the youth. Happy is the man that has his quiver full of them—they shall not be ashamed but they shall speak with the enemies in the gate."

The most common form of the yoni was that made in imitation of the female breast and the mons veneris, and we are told by some enthusiastic writers on phallicism that the pyramids of Egypt were built in honor of the female creative deity: they resemble to some extent a mound or the female breast. This appears to be another instance showing the lively imagination of the ancients and of the writers since that time, who have undertaken to find a similarity between the pyramids and the breasts of women.

During phallic days we learn that boats, the leaves of trees, and even the doors and windows of the temples were regarded with much significance, and classed with objects of worship, because they bore some resemblance to the outward appearance of the yoni. Wine was considered a

favorite symbol of the sexual deity, too, because of its stimulating and aphrodisiac effects, and in various ways it was employed to signify the generative or preserving attribute. Even fish were worshiped because their bodies resembled the phallus, and the mouth of the fish the yoni.

It can be readily understood then that the creed of the phallic worshipers was based upon a belief that reproduction was controlled by two deities represented by man and woman, or the male and female, and they were best typified by the generative or reproductive organs, or objects similar to them in shape and appearance or possessing some of their characteristics. They, of course, knew nothing about spermatozoa and ova, but it was patent even to our first parents after they fell and enjoyed one another, that the creative act was to them the greatest of all pleasures and that it was the one and only means to bring another creature into the world patterned after themselves. It was only natural then for them to regard the generative principle and cohabitation as the culmination of all material and spiritual things; omnipotent and supreme with its pleasures of the flesh and its power of procreation; a something to be adored and cherished as their god of all life and enjoyment.

As the centuries and men swung along down the devious pathways of time, encumbered as they were with this enticing but devitalizing form of religion, which sapped the vitality of sex worshipers, the natural manner of sexual gratification became tiresome and repugnant to man, and he sought newer channels for the satisfaction of libido. The original method did not gratify his perverted tastes any longer; it was inadequate and failed to provide him with that degree of satisfaction which he desired. Reason, although intended for a better purpose, aided and abetted him in his journey around the vicious circle until he discovered here and there, like beckoning sirens, newer and different means of accomplishing an act which in the beginning was intended to be creative alone, the pursuit of which in another manner distinguished him from the beasts of the fields who have remained the same and in conformity to nature since the creation. Disciples of Venus and Bacchus became shamelessly vicious and corrupt, the natural use of the organs of generation was defiled and human society became so degraded that entire nations paid the penalty and became effeminate,

debauched, and profligate as we see exemplified in the downfall and dissolution of the Tyrrhenians, the Lydians, and the Romans. Men and women debased themselves abandonedly, with no care but that of present enjoyment, thereby sowing the seeds of misconduct in their offspring. This inherent taint of impurity and degeneracy passed on to posterity, and, like a rank weed, raises its head here and there today in the crimes of the human misfit, the sexual pervert, and the so-called moron. In the commencement of man's life upon earth he was more contented and satisfied with the sexual act accomplished in a natural manner, but soon it became a test of skill and ingenuity to devise new and unusual and unnatural means to stimulate an abused and a tottering passion into increased activity. These unnatural pleasures continued unabated and unchecked until the day came when the minds of men and women began to wither and decay and they satisfied their sexual desires sometimes with one of their own sex, or other wretched practices which only the human mind can conceive, were indulged in unrestrainedly. In the epistle of St. Paul to the Romans, Chapter I, we read:

"Wherefore God also gave them up to uncleanness through the lusts of their own hearts, to dishonor their own bodies between themselves.

"Who changed the truth of God into a lie, and worshiped and served the creature more than the Creator, who is blessed forever.

"For this cause God gave them up unto vile affections; for even their women did change the natural use into that which is against nature; and likewise also the men, leaving the natural use of the women, burned in their lust one toward another; men with men working that which is unseemly, and receiving into themselves that recompense of their error which was meet.

"And even as they did not like to retain God in their knowledge, God gave them over to a reprobate mind, to do those things which are not convenient."

Thus do we see the endless struggle and endeavor—the leaven of purity in man battling against bestiality; of unnatural impulses blighting morality, since Adam and Eve first walked as lovers through Eden and dreamed of the coming of that new being which was the fruit of the first union. Men entered the world to continue propagating the human species in a manner their Creator ordered, but when reason, with free will

and the working out of their own destinies, appeared on the horizon of life, together with the added burden of those natural changes which we know occur at puberty and at the climateric in both men and women, many myriads fell from the paths of chastity and rectitude. They were swallowed up and swirled along in the dark current of lewdness until they finally reached that immense and turbulent sea of nervous diseases, perversion, and unsoundness of mind—the great sea of transgression.

Only those characters imbued with strong wills and a propensity to curb their passions, and those possessing and cherishing the faculty of distinguishing between excesses and natural practices, were able to conquer the malignant influence of the sensual serpent, and live in that state of decency and pure love from which spring the greatest solaces in life except the happiness that comes through the consolation of religion.

Scripture and history abound with the names of unusual and wonderful characters who appeared here and there over the world as time sped onward, and who devoted all their energies and even sacrificed their lives in their efforts to root out and destroy man's vicious excesses and impurities, many of which grew out of and were fostered by phallicism. Moses led his people out of Egyptian bondage and for forty years they quit the land of Pharoah and wandered hungry and unkempt over the desert, while he taught them the blessings of decency and virtue. He exhorted them to strengthen their bodies and their minds by practicing self-control and to abjure that phallic sin which undermined their strength and character, that they might succeed in bringing forth a hardy race of men. "Thou shalt not commit adultery," and the other commandments he delivered to them on Mt. Sinai thirty-four hundred years ago, and he labored unceasingly to implant in their minds the seeds of that truism: "he that would pass the latter part of life with honor and decency, must when he is young, consider that he shall one day be old."

Since the beginning of time, however, the most powerful force which has arisen to combat the evil arising out of sex worship was Christianity, which followed Moses fifteen hundred years later. It taught all that was gentle, and pure and just. Where Homer and Hesiod and Theognis and many men during the long ages that preceded

Christ invoked the gods and the good genius to aid and provide a means of vengeance whereby they might punish and destroy their enemies, Christianity eschewed the spirit of revenge and taught the precepts of forbearance and the return of good for evil. It raised women to a social equality with men, and it strengthened the bonds of love between men and women by teaching the excellence and rewards of cohabiting in purity. It taught that polygamy was a grievous error, and that men sinned when they took unto themselves more than one woman or any woman not united in wedlock.

Mohammedans and Buddhists visualized a future existence, promising a celestial harem filled with perfumed women or velvet-eyed nymphs of heaven. Mohammedanism makes the attainment of carnal desires the reality of their paradise, a soft and sweetened bait grasped and accepted by many because it is the easiest and most pleasurable way, and because Christianity makes life a daily task of self-abnegation abjuring adultery. Christianity pictured eternity as a different abode for the good—as a wonderful paradise with all earthly trouble and sensuality missing, the beauties and joys of which transcend the imagination of man.

Is it necessary to repeat that phallicism or sex-worship is a subject full of danger and pitfalls; or to remind you that its emanations and its promises are enticing to the individual morally loose—useful to one seeking an argument and an excuse for his lusts and his perverted desires? How eagerly do novices in sex-worship and disciples of the easiest way feed and ruminate upon phallic writings, moral courts, and erotic trials, and assimilate it all with pleasure and avidity! And how earnestly would many welcome a return of the old practices of sex-worship and extend the cup of welcome and good fellowship to it, just as they have sanctioned the removal of woman's clothing, until she now stands naked and unashamed before us on the stage and on the screen! It is the order of the day to banish purity from life's curriculum, and attend that banquet of sensuality where motley crowds of women exhibit their naked forms, smoke cigarettes, and place the finishing touches on hardened faces. In short, many consider one old-fashioned nowadays—out of tune with the time and people, to even think of virtue or Christianity, or to bother about what their lot

may be after they grace the world with their presence for 70 or 80 years. They read and without hesitancy accept the lessons and the precepts of the Iliad and the Odyssey, which were written a thousand years before the Christian era, and they believe the historical accounts or the literary efforts, as it may be, of Darius and Alexander, and Socrates, and Julius Caesar, some of whom lived 500 years before that time, but they do not believe that Christ spent his days teaching the opposite of phallicism, and some deny that he existed, although he came to the world centuries later.

The trend of present day minds may be seen in one issue of the daily paper where we read a half page advertisement describing Gertrude Atherton's Black Oxen, another article telling us that a foreign country classed as a Christian nation may soon advocate promiscuous intercourse, and still another notice describing in detail the efforts of a sexually impotent millionaire in his search for rejuvenation. Our theatres exhibit life-sized portraits of almost naked women at their entrances and the women in the flesh inside; dance halls permit men and women to engage in loose revelry savoring of the old Bacchanalian orgies; we read that a moving picture actress studies Freud; while a theatrical column informs us that a play entitled "The Courtesan" will soon be with us at one of our theatres to edify our wives and our sons and our daughters. And all this in an age of boasted enlightenment and a so-called Christian nation!

In direct contrast to this sexual banquet of our day, Tacitus, nineteen centuries ago, shows that in some instances even the barbarians had a clearer conception of the real purposes of existence and procreation. In his "Manners of the Germans," who were then classed as barbarians, he says—"When the bride has fixed her choice, her hopes of matrimony are closed for life. With one husband as with one life, one mind, one body, every woman is satisfied; in him her happiness is centered; her desires extend no farther. Both parties wait to attain their full growth; the match is then made, and the children of the marriage have the constitution of their parents." Caesar, too, praised the ancient Germans, declaring "The young men who are not acquainted with the union of the sexes till the age of twenty are highly applauded." And again, he says—"ignorance of

vice accomplished more among barbarians than all the boasted systems of a polished nation." Quintilian observes on the same subject—"Great care should be followed in teaching the young. They see and listen and endeavor to imitate. What is bad generally adheres tenaciously. Let the child, therefore, not learn in childhood what he must afterwards take pains to unlearn." And if certain misguided persons were permitted, sex-worship, or its counterpart, would be taught in our schools today.

Many there are who consider it a distinguishing mark of intellectuality to abjure all religion and all its teachings, and they smile indulgently at the deluded Christian enmeshed in his myths and his ignorance and moral darkness, as is the wont of one of our prominent Chicago barristers; and in much the same manner as Herodotus, the Father of History, was forced to smile when he heard persons describing the earth as round. Such persons stand with their backs to the light, and if their logic and plan of reasoning were followed we would believe that all men are morally equal, and we would accept the literal interpretation of that metaphysical aphorism, "Evil is not but it is a lack of the good which is befitting; evil is only a privation—a want of good." With them the pleasures of the garish day usurp the thoughts of death and a future life. The concern of the sexual devotee is worldly pleasures alone, to whom the practice of purity and self-denial is irksome and unworthy of any serious thought.

St. Augustine who led a profligate and a dissolute life in the arms of concubines believed, too, in the pleasures of the day until the star of faith arose and he embraced its teachings and purity instead. After his conversion he evinced his belief in the transitory nature of all worldly affairs and the folly of men who strive to blind themselves to the shortness and uncertainty of human life, when he declared: "Whithersoever the soul of man turns itself, unless towards God, it is riveted upon sorrows, yea though it is riveted on things beautiful." And Socrates, although a pagan—he who was considered the wisest man that lived, believed that men were not created for worldly pleasures alone, when just before drinking the conium, he says, in Plato's Phaedo, or the Immortality of the Soul: "Can the soul then, which is invisible, and which goes to another place like itself, excellent, pure,

and invisible, and therefore truly called the invisible world, to the presence of a good and wise God (whither if God will, my soul also must shortly go), can this soul of ours, I ask, being such and of such a nature, when separated from the body be immediately dispersed and destroyed as most men assert? But it is right, my friends, that we should consider this, that if the soul is immortal, it requires our care not only for the present time, which we call life, but for all time."

Sexual teachings, with its many ramifications for evil, permeate and threaten all strata of society today. It greets us on every hand and its beguiling influence seeks to engulf our children. And it is all merely a reversion to type, an attempt to open the flood gates of the old phallic practices with their indifferentism and their repudiation of all religion except that under the soft and alluring wings of Bacchus and Venus. Christianity is the beetled and unscathed cliff standing guard and undaunted against the allied waves of agnosticism, and pantheism and atheism, while the voluptuous sirens of sex-worship and the easiest way sing their Lorelei of pleasure, impurity and lust.

CONCLUSION

1. Much of the insanity and unsoundness of mind with us today can be traced back to phallicism or sex-worship and to the many abuses growing out of those practices.

2. The shortening of human life was caused mainly by excessive stimuli of the sexual organs, and the wasting of those secretions which God placed within us for a certain definite purpose, namely, the propagation of the human species.

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THE OUTLOOK IN THE TUBERCULOSIS PROBLEM.*

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After the tubercle bacillus was discovered by Koch in 1881, it was not unreasonable to expect that the tuberculosis problem should soon be under control. There is no instance, however, in the annals of medicine, where such was farther from the truth, because contrary to that conception, tuberculosis has proven to be almost as

great an enigma following the discovery of the bacillus as it did prior to it. The epidemiology, infection and immunity of tuberculosis have been and still are perplexing questions. Through careful and painstaking researches, however, light is gradually falling upon these darkened corners of medicine.

It is our purpose, therefore, to review the different steps that have been made and to present the fundamentals of the tuberculosis problem with special emphasis on the probable outcome as interpreted from the trend of events during the past. Very much the same as a statistician is able to interpolate and extrapolate curves from data on hand, so may we make predictions regarding the future of tuberculosis by an intelligent interpretation of reliable data of the past.

For the sake of convenience we shall divide the whole tuberculosis problem into a few rather crude divisions, principal among which is the combined efforts of the various phases of laboratory research. Let it be emphatically stated, however, that there is no intent to detract from work that is being done at present outside of this field. The principal point of the discussion will be that the knowledge that is gradually being acquired through laboratory research will eventually be the means of solution, as much as there ever will be a solution. By a rather careful study of statistics, we can balance up many phases of the problem and show that the tuberculosis problem will continue to yield but slowly to our present methods of handling.

The first point or hypothesis is that, in every community a balance is ultimately reached between the morbid effects of congestion and industrialization and an acquired immunity. This does not mean that acquired immunity will solve the tuberculosis problem or allow us to fold our arms and say "let nature take its course," for "nature's course" is not suitable to us in this instance. Nature's method is a survival of the fittest, a destruction of the weakest whether it is by the best means of adaptation to life, on the one hand, or by vulnerability to destructive organisms, on the other. Tuberculosis is only one of nature's varied means of destroying those who have violated laws of life. It may be called a biological counterpart of our civilization. We must not overlook the fact that the world was not made for us any more than for any other living protoplasm; that wherever living

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protoplasm has the proper environment to grow and reproduce in its own way it will do so whether it is the human body or the tubercle bacillus; and that so long as we cultivate tubercle bacilli in our bodies they are going to respond to this cultivation. Our advantage over other forms of life is that we developed the power to reason and can select our environment to a considerable extent.

In fact, the congestion of the race seems to be the *sine qua non* of tuberculosis. Numerous other factors file in and take their respective places in order but the fact that we are forced to associate with others is the first and most important etiological factor outside of the bacillus itself. As an illustration, we may cite the experience of Dr. Fox at the Philadelphia Zoo. By strictly isolating tuberculosis-free monkeys, he was able to keep them free from tuberculosis. Unfortunately the human race can't be isolated in that way and tuberculosis infection, therefore, is liable to remain with us indefinitely just as it has been with the race from the remote past as shown by Moody¹, and ancient Hebrew, Greek and Indian authors.

Furthermore, congestion is almost inseparable from indoor life. At the time that man began to move into caves and shelters, perhaps tuberculosis appeared. The inside life has at least two drawbacks, first it causes closer contact between individuals and second, it deprives the individual of the rugged physique that is developed in the open air and sunshine. A most excellent illustration of this is afforded by the North American Indians. These strictly out-of-door people according to Benjamin Rush² in 1783, were not known to develop "consumption." This is almost 200 years after the first contact with the white race, surely enough time for the disease to develop. The next century, however, was very different. In reporting on tuberculosis among the North American Indians, the committee appointed by the President of the National Association, came to the conclusion that the high death rate from tuberculosis was caused by the depletion of wild food. This caused starvation and more and more dependence on the white man and his modes of life. We see that the changed mode of life then had a mollifying effect that was disastrous. Wild animals brought into zoos react in an identical manner. An explanation of these facts would take up too much space.

Today, according to the report, the disease has been checked among the Indians and the death rate is approaching that of other peoples. This change has taken place within six or seven generations.

What has happened to the Indians has happened to every race since antiquity. That is, as the race becomes infected, due to congestion, the mortality is at first high, then a gradual decrease occurs until a balance is reached between the amount of congestion and other environmental factors and an acquired resistance that for want of a better term we may call immunity. If this immunity did not develop within a few generations no race could survive long, for the death rate among primitive peoples when the disease develops is very high. Drolet³ in New York City, gives us the most valuable figures to substantiate this claim, although many others are also trustworthy. The value of these figures lies in the fact that they are compiled in the same city and under the same general conditions, a fact that lends great weight to an interpretation of racial differences. The Jews head the list with a death rate of 86 per 100 thousand. Following in order are the Roumanians, 92; the Americans, 108; the Italians, 122; the French, 130; the Germans, 133; the English, 136; the Austro-Hungarians, 165; the Scotch, 181; the Swedish, 202; the Swiss, 217; the Greeks, 228; the Norwegians, 249; the Irish, 306; the Finns, 342, and the Negroes, 398 per 100 thousand.

We see by these figures that the races that have been associated longest in the centers of civilization are the ones that have the lowest death rate from tuberculosis. This point is extremely significant and may almost be formulated into a law. Every race so far as we are able to learn, seems to pass through a definite cycle of varying types of tuberculous infection. When the first infection comes, the type of tuberculosis is acute and the exudative lesions are produced such as tuberculous meningitis, pneumonia and generalized infection, the death rate in this class is extremely high. L. Cummins⁴ stated that the death rate in African troops from tuberculosis in the late war was more than all the rest of the British Army. A few quotations of Cummins are quite pertinent at this point:

In 1917-18 "more death from tuberculosis from a few companies (ca 11000) of African

than from the whole of the British troops in France."

"The Indian divisions in France in 1916 showed a tuberculosis incidence of 27.4 per cent. as compared with a case incidence of 1.1 per cent. amongst British troops."

"The Sudanese soldier who contracted tuberculosis was doomed—the disease ran a course of extreme rapidity."

"The susceptibility of Africans and other primitive races to tuberculosis is the susceptibility of virgin soil."

Metschnikoff found amongst the Kalmuks that the farther from civilization they were, the less tuberculosis infection he found. Calmette and Borel found similar figures for the French colonial troops. Ziemann found among the Bantu negroes only 3 to 5 per cent. positive Pirquet reactions in more than 700 examinations.

As the various races continue to associate where infection is prevalent, there is a gradual diminution in the death rate over and above all other factors until finally there seems to be an equilibrium reached between the acquired immunity and the infections due to congestion and environment of civilized life. In the ancient civilizations, we are unable to draw any conclusions for obvious reasons but since the time of the Roman Empire, it is not difficult to apply this rule. We observe that the races that have been associated longest in the centers of civilization have the lowest death rate. The Jews for example, who antedated the Roman Empire for one thousand years or more, head the list as everyone knows, next comes the Italians, then the English and so on down to the races that have had little exposure. It is readily seen that, as the active centers of civilization have shifted from one place to another, tuberculous infection has gone with it and that the ones that have been associated the longest in these active centers have the most acquired immunity and the lowest death rate. There is one apparent exception to this rule and that is easily understood when interpreted in the light of our modern knowledge of tuberculosis immunity. We speak of races *that have* been in the centers of civilization and still have a poor grade of immunity. Such for example, are the Greeks⁵, the Egyptians⁶, the Persians⁷, and perhaps the East Indians.⁸ All of these civilizations, however, have thrived prior to the Roman civiliza-

tion and become inactive or decadent and therefore, the immunity that they perhaps once had has been lost just as in an animal experimentation it requires repeated injections of living organisms to retain immunity.

It may seem incredible, but these changes have been observed by pathologists to take place in a short period of time. Robertson⁹ of the Mayo Clinic has recorded this fact and every clinician and pathologist knows well that the varying grades of immunity produce different types of tuberculous disease. For example, the negro or the Finn produces a different type of tuberculosis both clinically and pathologically from the Jew or the Italian. Robertson's observations are particularly valuable because they confirm in the human individual observations that have been made by Römer, Trudeau, Krause, Webb and others, in guinea pigs by the use of avirulent organisms or with some particular mode of inoculation. This confirms the belief, therefore, that even a non-immune individual in a short period of time may develop an immunity to the disease by a definite mode of infection.

While we do not know the most favorable mode of infection in man, in the guinea pigs, however, exhaustive studies have been made, and much information has been acquired regarding the immunity reactions following a tuberculous infection. Webb¹⁰ has compiled the immunity phenomena of tuberculous infection and there is no need to go into the details of them here. It seems, however, that we may divide immunity reactions into two groups: first, the type that is represented in the immune races that have been developing an immunity over a long period of time. This type of immunity seems to protect against infection by an increase of fixed tissues, and a tendency to form epithelioid tubercles. We might term it the fibrogenetic form. Second, the type that develops following an infection by the tubercle bacillus. This type seems to fall more into the general class known as allergic reactions. The body cells appear to be sensitized to tuberculous toxin or to the products emanating from a tuberculous focus. It is partially non-specific in character and is roughly proportional to the frequency and quantity of infection. This property of the cells is responsible for the Koch phenomenon, the focal reaction and various other reactions in the tuberculous individual. In small doses, development of this quality in the cells ap-

pear to have a favorable action on the disease. There seems to be an exudation around the focus and a walling off of it by an inflammatory capsule. In larger doses, however, it merely acts to spread the disease by excessive exudation. Therefore, the acute or individual type of immunity is that type chiefly responsible for the exudative forms of tuberculosis. As a retrospect of the field of immunity, it seems that the difference between the immune and the non-immune is that the former is able to react more rapidly and in the proper manner to stop the progress of the bacilli from one point to another, and that any individual may in time develop this quality in varying degrees depending upon the quantity and duration of infection whether this is in the life of the individual or over past generations.

Before leaving this phase of the subject, we wish to clear up, if possible, the part that industrialism plays in tuberculosis. During the early days of modern industrialism before the introduction of open air factories, medical inspection and the general social betterment of the working class, there was a very high death rate among the working classes. The increase in congestion, the lack of protection to workmen, the long hours and hard work were no doubt responsible for it. Today the same conditions do not hold because all these environmental factors have been altered and medical inspection has been improved. Collis¹¹ states that the death rate in Sweden during the early part of the last century was relatively low and the time of maximum incidence was fifty years of age or over. But when modern industry and better means of communication came in after 1870, the death rate rose considerably and the age incidence was shifted more into the young adult life from which the greater portion of the laborers are drawn. Similar statistics for Ireland, Scotland, England and other European countries are given and all indicate the profound influence that industry bears on tuberculosis incidence. To clinch the argument he uses the figures of incidence for females during the war in which the increase is very striking.

The second point that we desire to make is that the increased tuberculosis morbidity following other diseases will decrease in proportion to the general death rate and will eventually approach an equilibrium. This point really needs no extensive comment but is included for the

sake of completeness. Reliable statistics along this line bear this out. The death rate in the United States from 1900 to 1920 not only shows the tuberculosis death rate to roughly parallel the general death rate, but during the influenza epidemic in 1918, as the general death rate rose so did also the tuberculosis death rate. A mortality chart of the British Isles from 1870 to 1920 shows similar results. In fact, by closely scrutinizing these charts, we wonder whether the general death rate has been influenced by our tuberculosis campaigns or whether the tuberculosis death rate has been lowered by the general improvement brought about by modern scientific medicine. No doubt both factors have played their respective roles.

The next point that we desire to discuss is that by our persistent methods of isolating open cases and by proposed methods of segregation that we will eventually (after a century or two) reduce the immunity of the race to such a degree that even though infections may be rare, morbidity and mortality will counterbalance it due to this lack of immunity and that here again an equilibrium will eventually be established beyond which we shall be unable to advance. There is no doubt in anyone's mind about the universality of tuberculous infection in cities today. This has been so thoroughly demonstrated that it really needs little comment. Krause¹² has reviewed the work of various phthysiologists over the world and has shown in a striking manner that tuberculous infection is acquired at an early age and becomes almost universal by the age of adult life.

From observations on various other diseases, it is indeed an optimistic individual that will make any claim relative to the abolition of tuberculous infection entirely. In such diseases as smallpox or diphtheria where first-class means of protection against the disease are available, where the carrier state plays a lesser role and where the acute form runs a rapid course with a rapid disappearance of the virus from the body, still these infections are rather widespread throughout the world and we seem to have reached an equilibrium beyond which we cannot go. It is unreasonable, therefore, to expect us to do more in a disease where the carrier state almost perpetually exists and increases in proportion to the number of contacts between individuals. It is true that in country places, as

Slater has recently shown, tuberculous infection is perhaps acquired later in life if it is acquired at all. As people become more and more isolated, the disease becomes less prevalent, but when these non-immune individuals are exposed to the infection, their disease is all the more fatal as we have stated previously. Therefore, the efforts being exerted at the present time should be continued as they are, but rather with more emphasis on eliminating the massive doses and the prevention of morbidity. It may seem strange, as Drolet has shown, that the children of tuberculous individuals do not develop tuberculosis to the extent that other children do. While this data is interesting and hard to interpret, yet no one would be so revolutionary to advocate the cessation of activities that attempt to prevent infection by the tuberculous, especially in infants and children.

Naegeli, Ghon, Opie and others have corroborated this idea of universal infection by pathological examinations of non-tuberculous individuals. In every instance the remnants of tuberculous infection have been found in practically every individual. Taken with the experimental work of Gardner¹³ who found that tuberculous lesions produced in guinea pigs with an avirulent organism, could be completely resolved leaving no trace, it certainly bears out the other workers' findings and perhaps accounts for a great number of infections that leave no trace. In our own autopsy work, we have noticed that patients having a moderately advanced tuberculosis with physical signs to the third rib, will have as few as 6 to 8 scattered healed nodules barely perceptible to touch in the apex. These observations have been made on patients dying from some other cause after a period of treatment.

If it is our duty to concentrate on the prevention of morbidity rather than infection, how are we to proceed? Taking it for granted that massive doses from careless patients must be eliminated by isolation, it is easily said that we should seek out the prospective tuberculous and educate them in a dozen ways, but how are we to know the prospective tuberculous? It means that every living man, woman and child should come into this class and that every insidious condition that causes malaise, anorexia, loss of weight and other symptoms of smouldering tuberculous infection for which no other good cause is found, should be treated as tuberculosis until proven otherwise

or until the symptoms are gone. We know that everyone in cities receives the infection in a variety of dosages and manners; we know that tubercle bacilli, tuberculin and tuberculous tissue are highly toxic, so that when these toxins are liberated in an organism there are symptoms of toxemia which may be manifest in a hundred ways by action on the nervous system, gastrointestinal tract, etc.; lastly we know that anything that may lower the condition of the host below par enhances the growth of the smouldering focus of infection and the farther below par the greater the risk.

Where are we to break in on this condition? Shall we inaugurate a campaign of education in the public schools, in the press or in special health magazines and educate the public? Very good, but it will never suffice. It will do good indeed, for it has done good, but how can we expect lay people to master facts that it takes physicians many years to understand and even then our knowledge is very incomplete? Lay people should continue to receive propaganda, but the general practicing physician is really in the point of greatest vantage and should increase his knowledge of this protean disease. It is the physician who sees the under-nourished child; the child who has no appetite; the patient following a severe disease; the pregnant mother. The physician should acquaint himself better with the remote predisposing causes of tuberculosis and should not hesitate to warn his charges when even the remote causes may be present. In a disease like tuberculosis, he would not be injuring his practice by acting as a teacher of tuberculosis. There is, however, a limit to the amount of good that can be done by education of either layman or physician. There are, unquestionably, conditions that arise in the history of every family that cannot be ameliorated by any preaching no matter how good. It brings us to the next point, the social and economic phase.

The tuberculosis problem, therefore, rests on the economic condition of the individual family or community and will fluctuate with it. Our duty is to bring about ways and means to better the social and economic condition of the needy whether they are tuberculous or not. A starving family will always be soil for tuberculosis and conversely tuberculosis will always prey on these people who have unfavorable environment of

every sort, lack of food, poor air, unhygienic surroundings; lack of sunlight, overwork, congestion and mental irritation. There are many reports to show that tuberculosis increases with the price of bread and living commodities and with decreases in wages. An excellent example of the influence of economic factors is afforded by central Europe following the late war when all other factors previously mentioned were not interfered with, yet the economic condition was deplorable and with this one variable factor, the death rate from tuberculosis rose two or more fold in countries in which the death rate was normally low when the economic condition and medical care of the tuberculous was good. The medical handling of the tuberculosis in this case also depended on the economic factors. In other words, there was in operation two of the most detrimental factors: a breakdown in the anti-tuberculosis machinery, plus starvation and economic collapse, the latter bringing tuberculosis and the former unable to care for it. The more important phase of the problem is unquestionably the one that permits or causes the morbidity, because after morbidity it is a considerable minority that go on to cure, the rest entering the mortality column ranging from 1 to 20 years. Therefore, the work that improves the economic status bears more fruit than the more difficult although imperative treatment. This phase of the problem is, therefore, thrown back on the citizen body of the community. It becomes a duty of citizenship. The prosperity of every group of citizens is essential, the farmer as well as the bricklayer; the clerk as well as the tailor. It means a continuation of improved conditions of life and labor; shorter working hours; better wages; better homes; more air and sunshine; more holidays and vacations; and improvement of working conditions.

More and more one is impressed with the doctrine of Armstrong as quoted by Krause¹⁴ that the reduction of tuberculosis (and other diseases as well) is proportional to the money spent to control it. You can buy a dollar's worth of health for a dollar. This, of course, means that the dollar goes to help quarantine; to assist treatment and to better the social condition. When the family is economically strained, it means assistance by any means possible; in fact, it means the stopping of all the leaks along the line.

Coming to the last point of the discussion we

feel hesitant about appearing to place emphasis on the field in which we are most interested. In reality this is not the meaning. I recognize every constructive act done by the vast army of men in other branches of the work and may compare our work to the work of the Chemical Warfare Service in the late War—rather small and inconspicuous, but very vital in the outcome of the struggle.

In the tuberculosis struggle the field of laboratory research has ever been the pacemaker. In the last century, Villemin, Kuester, Conheim, Rokitsansky, Koch and Ehrlich led the way from a bacteriological and pathological standpoint. Von Behring, Cornet, Flugge and others from the epidemiological; even the clinicians such as Laennec and Trudeau turned to laboratory research for much of their results. In this century there is no exception to this rule. In fact, laboratory research is gaining momentum. It is encouraging to note that the National Association has set apart a fund for tuberculosis research and already much good work has been done. Numerous other institutions are devoting a great deal of time and expense to tuberculosis work—not the least of which is the Research Laboratory at the Municipal Tuberculosis Sanitarium, Chicago. The general aim of this work is to gain a more complete chemical and biological knowledge of the parasite, the host, and the two taken together. The work that has been done and is being done will be briefly discussed in that order.

Of all the achievements of the work on the tubercle bacillus the most important has been the isolation and identification of the heavy sterol or wax that surrounds the bacillus. There is little question about the actual identity of this substance isolated by Tamura and called Mykol. This heavy cholesterol-like wax forms a protective shell around the organism that must be reckoned with in any experimental work done. The solubility of this substance as well as of chemicals in this substance must be learned if we are to find anything that will kill the organism, because penetrability depends on solubility. Of the other numerous constituents we need only say that much of the biochemistry of the organism and its products has been worked out. It has been found by various authors that the tubercle bacillus liberates enzymes that assist in the preparation of its food or weaken its host. Wells and Corper¹⁵ found fat splitting enzymes. Cor-

per and Sweany¹⁶ found a tryptase, ereptase, peptase, and urease. Kendall, Day and Walker¹⁷ obtained similar results. Long¹⁸ has concentrated tuberculin and has worked out a great deal of the chemistry of it. Pinner¹⁹ has just completed a research that has in a general way determined the chemical composition of tuberculosis antigen and antibody. We know in a general way, the metabolism of the bacillus by cultural studies. Nocard found that it grew better with glycerine. Dorset found that egg medium enhanced its growth and so on until we now know all the elements that it needs as well as many other biochemical properties.

Regarding the host, we shall pass over the early pathologic discoveries and mention the recent work which has been chiefly that on the living tissues by vital staining. Maximow²⁰ and others have produced tubercles in tissue cultures and have shown the genesis of the tubercle with the cells entering its formation. Foote, Haythorne, Permar and others have done enlightening work along the same line. Soon we shall be able to experiment on the disease and watch the process under the microscope. A great deal of research has been done on the exudates and body fluids. Sweany, Weathers and McCluskey²¹ made an exhaustive study of the chemical changes in the blood during various types and stages of tuberculosis. Very interesting findings were recorded. All this information is going to be valuable when we come to apply a therapeutic remedy. It will give us a basis on which to work and afford criteria of healing that we have not at hand with our present clinical facilities.

Now as to an actual remedy for the disease, tuberculosis, that is, the parasite plus the host, we may look to one or more of four different sources. The first of these is virtually, vaccination. Earlier we mentioned the possibility of a gradual decrease in immunity due to the efforts at isolating the open case. This fact need have no terrors for us because recently Calmette²² has abundantly proved that artificial immunity can be conferred on human infants that will protect them from tuberculosis. This work was based on 20 years work in preparing and trying out an avirulent bacillus. If we ever find that the necessary immunity is failing, it will be a simple matter to restore it and that in a better graduated method than nature does.

For the group of patients that have actually

acquired the disease there are various things that lend encouragement: laboratory methods now are able to establish a prognosis; we hope soon to be able to make an early diagnosis as well. Further than this, there may be produced a passively immune serum that will act against the various enzymes of the bacillus, thereby crippling it and enabling the body to throw off the parasite. It will require a more highly purified antibody than has yet been produced, but it is far within the realms of possibility and will approach a probability as chemical knowledge increases. We shall pass over the possible value of rays of light with the statement that the sun's rays or similar rays appear to exert a marked favorable stimulation upon the body and body functions which will greatly assist the tuberculosis patient. The ultimate results of such treatment cannot at this time be foretold. We know that if certain rays can be made to reach the bacillus that it will be killed. Such has not yet been possible. Last of all should other attempts fail, we must fall back on chemo-therapy. By this means we may find a substance that will either affect the bacillus unfavorably or the host favorably. Perhaps the latter will be the easier to find. Numerous attempts have been made with chemo-therapy, notably by Koch, Von Linden, Corper, Lewis, DeWitt and quite recently Mollgaard and others. We have in our laboratory launched upon a program of chemo-therapy that has produced many interesting results, although no agent that has yet measured up to the requirements. There is no telling how soon someone will be fortunate enough to find a valuable remedy to check the disease when it is once begun, to shorten the convalescence or actually save patients' lives. If it is accomplished, it will be with the aid of all those who have contributed to the sum total of knowledge of tuberculosis. All those who are bearing the brunt of the labor in the cause of tuberculosis, in whatever field they may be, must share in the honors.

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DISCUSSION

Dr. Clarence L. Wheaton, Chicago: Man will ever be susceptible to tuberculosis until those economic and social problems are solved that have so much to do with the lowering of his resistance and creating this susceptibility to the disease that ends in tuberculosis.

The modern civilization, the tendency to overcrowd, the intense nervous strain incident to various occupations, health habits and certain trades of industrial life, all have their importance as predisposing factors in the physical breakdown of the individual.

In the solution of our tuberculosis problem the curing of the disease is quite unimportant as compared to those measures taken to prevent acquiring the disease and to prevent its dissemination. The widespread educational propaganda as to right living, proper housing and the control of those already infected, plays a most important role. This, together with the strict enforcement of all laws for reporting and controlling tuberculosis in every municipality, will have its effects in the lowering of the morbidity and mortality from this disease.

All students of this subject must be impressed with the value of our prophylactic work among children in the anemic division of our public schools. The results accruing from the physical upbuilding of the child fully justify every item of expense incurred.

Through long exposure to tuberculosis and insidious infection we may hope for a limited degree of racial immunity. But this in itself will not eliminate the disease. The economic and social problems of every day life will ever demand our attention and measures for their solution must be considered if we hope to eradicate the disease.

The accumulated facts incident to the progress of our knowledge relating to immunity are unfortunately of less practical application in tuberculosis than in many other pathological conditions of a less complex nature. Tubercular toxemia not being due alone to the Koch bacillus, we must consider the products set free in the human organism after the death of the bacillus, a toxic element, also a toxemia so little recognized after tissue death at the site where the tuberculous process evolves and finally a toxic element determined by the microbic associations.

In Belgium 40,000 animals have been immunized. This is a relative immunity lasting at least a year. The principles in experimental inoculation toward the production of immunity show that the underlying principle in the biologic therapy of tuberculosis necessitate

the introduction into the body of bacterial agents estimating resistance to infection.

The production of immunity is a complex process, but it is no longer a matter of dispute that results of considerable value have not been achieved. Insurmountable obstacles surround the workers in this field of research through whose labors has evolved our present day knowledge of the theories of immunization.

I am very optimistic regarding the future so far as concerns the discovery of something that may help us in curing tuberculosis. I believe that if anyone is able to discover that it will be in Dr. Sweany's laboratory. He is doing a remarkable amount of original research work there.

At the next meeting of the National Tuberculosis Society I think the results of this work will be presented.

Dr. Henry C. Sweany (closing): Dr. Wheaton mentioned about the active immunity work done in Belgium on animals. This field is so great we couldn't cover it all. There has been a great deal of work done in artificial immunization against tuberculosis. In over twenty years time in 230 generations, Calmette has developed an avirulent tubercle bacillus vaccine that he has used successfully in protecting children from tuberculosis.

Should we ever find that our immunity is failing some such vaccine as this may be conceived that will give us that desired immunity.

NONMALIGNANT STRICTURE OF THE RECTUM

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CHICAGO

A stricture of the rectum is an obstruction in the caliber of its lumen as a result of congenital malformation, diffuse inflammation or new growth in the intestinal wall.

It affects females more frequently than males, Wallis¹ says 5 or 6 times as frequently. Poelken, who has collected 215 cases reported in the literature, notes that 190 were women and 25 men, or 86 per cent. were women. Hartman² reporting 86 cases, met in a general surgery practice, noted 70 women among his patients.

The stenosis may be due to developmental failure, trauma, gonorrhea, tuberculosis or syphilis. Hartman says 34.8 per cent. of his cases had undoubted syphilis. This frequency of syphilis in patients suffering from strictures of the rectum is universally acknowledged. Tuberculosis may develop after the stricture on account of the disturbance to nutrition brought about by the rectal lesion. The status of dysentery as an etiological factor in rectal strictures is bitterly contested,

some authors claiming and others denying that rectal stricture follows dysenteric ulceration. I have had but limited experience with dysentery and have not seen stricture in any of these. The so-called spasmodic stricture also deserves consideration.

Cancerous obstruction has been dealt with elsewhere. Any destruction of the rectal tissue, inflammation of the submucosa or deep coats of the rectum may terminate in stricture.

In form these stenoses may be

- (a) Annular—like a ring about the rectum.
- (b) Tubular—where from one to several inches of the rectum is involved in its entire circumference and in all of its coats.
- (c) Linear—where a cicatricial or fibrous deposit invades but part of the circumference.
- (d) Valvular—strictures which are hypertrophied Houston valves interfering with the passing of the feces.

Any of these may produce large or small calibered stenoses.

Obstructions which allow but a small channel past them produce well known and easily diagnosed symptoms, but minor obstructions which cause but a moderate degree of stenosis are constant sources of neuralgic and reflex symptoms which may be difficult to relieve.

Small cicatricial or connective tissue deposits in the walls of the rectum are constant sources of irritation because of the friction produced by the passage of fecal matter over them. It is not necessary that the caliber of a canal shall be so constricted as to form an obstruction in order to produce irritative symptoms.

Congenital Strictures have been dealt with elsewhere under the consideration of malformations of the anus and rectum. They are frequently unobserved until puberty when the changes in diet and personal habits direct attention to straining incident to defecation. Sometimes the larger strictures are unobserved until later life and are treated as cases of simple constipation until the development of fissures, hemorrhoids or proctitis brings the sufferer to an examination. This is usually about the age of puberty.

The previous history of congenital stricture differs from that of inflammatory which latter always succeeds an infection or ulceration within the rectum while the congenital stricture has no early history other than a gradually increasing

constipation which, however, has existed from infancy.

The stricture will be located 1 to 1½ cm. above the anus as a band or fold. The sphincter is not involved in the stricture although it may be somewhat hypertrophied.

Neoplastic Stricture.—The circular muscles of the rectum provide fibers which ramify through the pelvic areolar connective tissue and unite with supports of other pelvic organs by blending with the ligament of the bladder, the broad ligament of the uterus, and the sheath of the levator ani. Inflammatory processes within the rectum or in



Fig. 1. Constriction of Rectum at the site of the Rectal Valves.

any other pelvic organ may so fix these fibrous fingers as to cause traction on the circular fibers of the bowel. These fibers also constitute tracts along which inflammatory extension may travel and invade the rectal wall. Most instances where Houston's valves produce stricture are associated with pelvic cellulitis.

Houston's valves are anatomical shelves of the circular muscle fibers which project into the rectal lumen. They are, of course, covered with mucous membrane and are normally resilient and non-obstructive, but they may be traumatized or inflamed or ulcerated with consequent infiltra-

tion and contraction, and thus become the site of stricture. (Fig. 1.)

A papilloma may attain such a size as to mechanically block the rectum as may also condyloma, polypus or fibroid, but these are not true stricture of the bowel. Malignant masses of carcinoma or sarcoma may have an associated fibrosis which produces stricture but the cancer is the important condition the extirpation of which, if feasible, includes removal of the stricture.

Obstruction of the rectum from pressure upon it by enlargements of the other pelvic organs, i. e., the uterus, ovaries, fallopian tubes, bladder or prostate cannot properly be called stricture of the rectum, but they produce similar symptoms and may excite an inflammation in the walls which will eventually produce stricture.

Spasmodic stricture or phantom stricture as it is sometimes called on account of its imaginary existence is a transitory stenosis of but short duration, but while it lasts it interferes with the free passage of feces. Much has been written pro et con, its existence being denied by many authors, although others have reported instances occurring at the level of the attachment of the levator ani muscles and at the rectosigmoid junction. It differs from the fibrous stricture in that the spasmodic stricture is an irregular contraction of the muscular tunic reflexly in response to irritation and continues only so long as the irritation is kept up and is not attended with organic changes.

This spastic contraction of a narrow ring about the thickness of the free margin of a rectal valve grips the examining finger for a few seconds or minutes and then relaxes allowing the finger to pass up the bowel without hindrance. It is usually found one-half to two inches above the anus. This is about the level of the lower Houston valve and Krouse³ believes that is the structure involved.

The symptoms of this type of stricture may be so obscure and baffling that the rectum is never examined; and on the contrary there may be almost unlimited pathology in the rectum without the production of spasmodic stricture.

Sufferers from constipation often have an evacuation of the bowels after the passage of a bougie and are likely to think a stricture exists. Some patients complain of a feeling as if the feces reached a certain level and then were obstructed and in these individuals the rectal bougie, after easily reaching a certain point, is forcibly arrested in its progress and it seems plausible that irritants

in the feces may stimulate the circular fibers to spastic contraction.

The acuteness of the angle of the rectosigmoid junction changes from day to day and may be a factor. With the pneumatic sigmoidoscope when no adhesions exist this narrowing of the junction may be seen.

Temporary spasm of the rectum occurs sometimes on the introduction of the rectoscope but it usually subsides in a few minutes and by patiently waiting the examination may be proceeded with.

If the focus of irritation which causes the temporary spasm of the rectum be ulceration or infection within the coats of the bowel the spasmodic stricture may be the forerunner of a fibrous stricture, but when the cause originates outside of the rectum there is no probability of a fibrous stenosis resulting.

Krouse, after an exhaustive study of the literature and a careful study of these cases in his own work, concludes: 1. That spasmodic stricture of the rectum is not a disease, but only a symptom; 2. That it is not a common affection; 3. That it is easily detected by digital exploration; 4. That it often terminates in a fibrous annular stricture; 5. That it involves the lower Houston's valve; 6. That a rectal ulcer is a most important etiologic factor; 7. That curing the ulcer in its early stage lessens the chances of the development of a fibrous stenosis.

Inflammatory stricture may result from any abrasion or ulceration of the rectal mucosa sufficient in extent to involve the submucosa. In some cases the mucosa may have healed without evident change in the epithelium, but there exists a plastic deposit in the submucosa which continues to increase until it partially or completely surrounds the rectum. All strictures, regardless of their etiology, involve the submucosa.

Ulceration or injury of the mucosa alone will not produce stricture, hence this complication seldom follows catarrhal disease. Stricture is limited to those affections where there has been destruction of tissues and replacements by fibrous material.

The location of the stricture corresponds with the site of the primary lesion causing it and therefore may be found anywhere in the pelvic bowel although most of them are found between 6 and 9 cm. (2½ to 3½ inches) above the anus.

Tuttle⁴ in 110 cases found 88 instances below this level.

Cicatricial stricture may result from indiscreet applications of caustics to the rectal mucosa such as nitrate of silver or chloride of zinc, also following unskillfully performed operations upon the rectum, and here incontinence is often an added calamity. Neglected fistulae are often accompanied by stenosis of the bowel just above the internal opening. Resection of the rectum where an end to end anastomosis is made is practically always followed by stricture. Why it should occur in the pelvic bowel and not in the portions covered by peritoneum is not known, but it does occur. Lynch⁵ suggests it may be due to inadequate blood supply following operation; which theory is in harmony with the pathology.

Extra rectal pelvic operations, notably gynecologic procedures, may lead to rectal stenosis by affecting the nutrition of the rectum by stretching or thrombosis of some branch of the middle hemorrhoidal artery. In this way injuries incident to childbirth and also diseases of the uterine adnexa may be etiologic factors in the causation of rectal strictures. Perisigmoiditis and diverticulitis act similarly.

Peritonitis and pelvic cellulitis often produce stenosis of the rectum by bands which pass around the bowel or which bind the rectum to other pelvic structures and by contraction later will angulate the bowel. The circular muscle fibers when held by adhesions and inflammatory plastic material so that they cannot expand or contract will atrophy and become transferred into fibrous tissue.

Peritoneal abscesses originating in the prostate or in the broad ligament have frequently produced rectal stricture.

Gonorrheal proctitis is seen by all proctologists but it rapidly responds to appropriate treatment and most observers are of the opinion that deep ulcerations when present are due to secondary infection.

Syphilitic Stricture.—The exact status of syphilis as an etiologic factor in the causation of stricture is undetermined. Yeomans⁶ says that 80 per cent. of his cases had unmistakable evidences of syphilis. Our experience does not bear out this statement because we have obtained many negative Wassermann reactions of both blood and spinal fluid in just these cases as well lacking a positive clinical history. However, we

know that chancres and more frequently mucous patches are found within the rectum and involve the deeper coats of the bowel. Microscopic examinations of syphilitic stricture of the rectum show that the condition consists in a chronic inflammatory deposit characterized by nodular and gummatous formations around the blood vessels and also distinct endarteritis. The subject of syphilis within the rectum has been dealt with elsewhere. There are two independent factors operative in rectal strictures in syphilitic individuals, first, the gummatous deposits and the obliterating endarteritis which alter the nutritive conditions of the ulcer, and second the inflammatory hyperplasia affecting the submucous and muscular tunics.

The importance of recognizing this condition early is, as Earle⁷ has said, that while this fibrous deposit is in its embryonic state it is soft and yielding, and by the use of frequent dilatation of the rectum and the use of antisiphilitic treatment, the subsequent contraction and formation of a stricture may be prevented.

Tubercular stricture of the rectum or sigmoid is infrequent and its existence is even denied by many. Primary tuberculosis is rare, being more often secondary to active or quiescent tuberculosis of the lungs. The usual course of tuberculosis of the rectum is toward rapid sloughing away of the tissues; there seemingly is not enough reaction in the tissues to resist the infection of the tubercle and septic organism.

There is, however, a form of localized tuberculosis found in the cecum and appendix and sometimes in the sigmoid or rectum in which there is only a little sloughing of the tissues but rather an excessive cell proliferation. Clinically it closely resembles malignant disease and may be mistaken for carcinoma, sarcoma or diverticulitis. If the peritoneal coat is involved adhesions unite the rectum, omentum and small intestines into a mass, sometimes so large as to be felt through the abdominal wall. Caseation of the mass is rare and the tubercles are hard to find. Beach (Cooke: Diseases of the Rectum and Anus, p. 323) reports a very interesting case of this sort.

Pathology.—Whatever the nature of the infection, the steps in the formation of inflammatory stricture seem to be much the same, namely:

1. Infection and inflammatory processes.
2. Ulceration of the mucosa or a localized thickening and rigidity of the rectal wall.

3. Round cell infiltration and production of connective tissue in the perirectal spaces and which tend to encircle the bowel.

4. Persistent contraction of this new formed fibrous tissue.

5. Compression and atrophy of the muscle.

In a word, the formation of inflammatory stricture depends on an extensive production of connective tissue which persistently contracts, and may reduce the caliber of the rectum until it be completely occluded.

If the primary ulcer is healed the mucosa at the spot appears dry and to have lost its normal shining appearance. Often ulceration is coexistent with the cicatrization and if so the rectum will be filled with muco-purulent, sometimes sanious discharge. Syphilitic ulcers show a tendency to heal in their lower limits while extending upward. The scarred surface appears bluish-white and is dense and hard to the touch. The healed portion closely resembles the scar of a burn on the skin. There is associated an infiltrating edema of the surrounding mucosa and sometimes proliferating granulations which further encroach on the lumen of the bowel and increase the obstruction.

Ulceration above the stricture may not be due to the primary etiology but rather to simple toxic necrosis from the irritation and pressure of the fecal materials retained here. This impaction and the straining incident to defecation through the narrowed channel cause dilatation and thinning of the rectum above the stricture. Hence great care must be exercised in the introduction of bougies or other instruments for diagnostic or therapeutic purposes.

In advanced cases, especially of the annular type, there may also be ulceration below the stricture. This lower ulcer is of the type that produces the stricture, whether it be inflammatory or specific. As the blood courses longitudinally up and down the rectum rather than around the gut, the vessels are, in a sense, terminal vessels, so that when, by inflammation and compression, the arterial blood supply is limited and the venous flow more seriously obstructed, necrosis or ulceration results. Also the natural tendency of existing ulcers to heal is weakened. In syphilitic stricture there will be found endarteritis and small gumma along the course of the arteries and veins.

The strictures occupy a fairly extensive length of the rectum and the gut is inflamed above and

below the narrowest point whilst in the stenosis in connection with cancer the lesion is situated at various points and occupies a more or less extensive part of the rectum, but leaves untouched the walls of the bowel above and below.

The stricture lies generally 2 to 6 cm. above the anus, occasionally 8 to 9 cm. from the anus, and only rarely in the middle part of the ampulla or in the upper part. In three of Hartman's cases the stricture extended along the whole length of the rectum and once even reached the lower part of the pelvic colon.

Usually we can observe a funnel-shaped infundibulum leading to a ring and an indurated cylinder of fibrous aspect narrowing the bowel so much that the forefinger can barely enter and even the little finger is tightly enclosed. In a small number of cases the lumen of the stricture is decreased so much that a urethral catheter only can be introduced.

On the surface of the stricture there is hardly ever any ulceration. In a section all the coats are blended into one sclero-edematous mass from a few millimeters to 1 or 2 cm. thick. The lesions seem to lie especially in the submucous layer; the mucous membrane is intimately blended with the subjacent fibrous tissue; the muscular layers are invaded but it is always quite possible to separate the external muscular fibers from the submucous hard mass, the internal fibers only being invaded by the sclerous processes.

Below the stricture the mucous membrane is inflamed, red and ulcerated. Sometimes ulcerations can be seen. Nearly always the membrane has lost its elasticity; it is unyielding, sometimes greyish, and presents here and there an epidermic aspect. The mucous membrane is generally thicker, strewn with granulations or even small lumps, sometimes papillomatous, sometimes molluscous; when such proliferations are very extensive the disease is called proliferative or stenosed proctitis. The anus presents ulcerations resembling fissures separating the small lump of a condylomatous clump.

Above the stricture is an extension of the inflammatory lesions of the mucous membrane, an infiltration of the rectal coats and sometimes numerous ulcerations reaching as far as the descending colon. These ulcerations, resulting from fecal accumulation, are in association with a progressive mortification of the tissue.

It is noticeable that around the rectum fistulae

can generally be seen, starting nearly always below the stricture and opening very often at the skin, sometimes at the vulva, seldom in the vagina.

Microscopical examination of operative specimens shows a great scarcity of ulceration of the mucous membrane at the level of the stricture. The mucous membrane has been transformed and the epithelial cylindrical coating with tubular glands is changed into a stratified pavement epithelium coated with irregular papilla. This substitution is also found in chronic proctitis without stricture and is explained by the fact that the cylindrical epithelium becomes necrotic, falls off and is replaced by an adjacent pavement epithelium, the epithelium of the columns of Morgagni for instance.

Beneath the epithelium, when it is not involved, and below a single layer of embryonic cells, when it is ulcerated, the actual tissue of the stricture can be found composed of hard fibrous layers separated by embryonic diffused strips invading and separating the innermost layer of the muscular fibers.

These different lesions are alike in all kinds of strictures. In some cases in the middle of the fibrous layers, accumulations of round cells can be seen, especially around vascular lumens. At the same time on the internal coat of the artery are formed rounded vegetations; the lesions can be observed in the same way in the veins. Sometimes the vessel is completely obliterated, replaced by a nodule limited by a fibrous zone or a miliary gumma whose center sometimes shows a beginning necrosis.

The stricture as a whole is composed of fibrous tissue, resulting from a chronic inflammatory process and even in syphilitics the antisymphilitic remedies have no power either to cure or relieve the stricture.

Symptoms.—The course of rectal strictures is divided into three periods:

1. Latent.
2. Inflammatory or ulcerative.
3. Obstructive.

Latent or Formation Period.—Following the insult to the rectal mucosa an ulcer develops which finally heals and for a while our patient suffers no symptoms of rectal disease. During this period inflammatory development is going on but it is overlooked by the medical attendant and certain probable symptoms can usually be

elicited by careful interrogation. The patient will admit that ever since the original injury or disease he has suffered more or less from heaviness, weight or aching in the rectal or sacral region or on either side of the sacral vertebra, just at its junction with the last lumbar vertebra. This is due to the impacted sigmoid pulling on the mesentery. Also pain shooting down the legs as a result of the accumulation of fecal matter in the rectum. Frequent micturition is often associated with this condition because of the pull exerted on the peritoneum as it passes from the bladder to the rectum. In women occur various reflex uterine disturbances. These symptoms, due to the proctitis, are those of any pelvic disturbance because the nervous mechanism of all the pelvic organs is closely interrelated and the possibility of stricture is to be thought of. By the time these symptoms are sufficient to attract attention of the patient and to cause him to seek advice from his physician, examination will disclose a considerable degree of constriction.

Ulcerative or Inflammatory Period.—The presumptive symptoms before mentioned gradually increase and a discharge of mucus, pus and blood is noted, together with rectal tenesmus. The abundance of this discharge varies. There are clinically two types of stricture; one with predominant suppuration, the other with predominating symptoms of stenosis. The discharge may be simple purulent, but more often is muco-purulent, glairy or membranous, with blood; in a few cases the discharge may be sanious, fetid and blackish. Some patients are obliged to wear a napkin in consequence of the abundant suppuration. The edge of the anus and the neighboring parts present an erythematous eruption. The discharge may occur only with the stools, but when extensive it passes independently of the feces and sometimes is entirely purulent. It is possible to mistake the suppuration for the discharge of an intra-anal abscess. Though the bleeding is not as extensive and usual as in cancer, yet it may be as important. One of Hartmann's patients compared it with menstruation.

Obstructive Period.—At this time there develops a gradually increasing and persistent constipation. At first cathartics are used but they soon lose their effect and an evacuation is had only after repeated enemas and is then accompanied with much straining after the fecal masses have been liquefied. In this condition it is quite

usual for these sufferers to go a week or more between defecations. The retained feces irritate the mucous membrane causing a catarrhal discharge and colicky pains and producing alternate diarrhea and constipation or the two conditions at the same time. There will be frequent and imperative discharge of mucus and liquid stools and at the same time a retention of large fecal masses. This condition may be easily confused with dysentery and the physician be tempted to administer opiates.

Sometimes the hard fecal masses can be palpated through the abdominal wall, although gaseous distention soon marks the findings. These hard fecal masses may produce complete occlusion of the bowel and even rupture. With all of this blocking there soon results intestinal indigestion, flatulence, coated tongue and all the evidences of auto-intoxication. Inguinal hernia may also be produced by the frequent and severe straining.

During the straining incident to defecation, blood is frequently voided with the mucus and pus, and sometimes a free hemorrhage may occur from the ulcerated surface.

Because of this persistent straining there may be an invagination of the sigmoid or upper portion of the rectum into the lower, resulting in traction on the mesentery indicated by pain referred to the lumbosacral joint. In syphilitic patients we frequently find anal syphiloma and condylomata existing at the same time as an obstructive stricture.

The form of the fecal mass has been considered as evidence of the existence of stricture. Grooved or tape-like fecal masses have been thought to demonstrate the aperture through a rectal stricture. The fecal mass is molded, of course, by the last opening through which it passes, and unless the stricture is at the anus or is prolapsed outside it cannot shape the extruded masses. More likely such forms are due to hemorrhoids or a spastic sphincter.

When the strictured portion involves the sphincters these muscles lose their elasticity, the anus becomes patulous and the patient suffers with incontinence as well as constipation. Gas and fluids escape uncontrolled but the solid material remains and blocks the canal until solvent enemata relieve.

Dilation and thinning of the gut above the stricture from the retained masses may cause perforation and peritonitis. Sometimes, however,

operation may relieve the patient or the area is walled off by a local peritonitis and an abscess forms which terminates in a fecal fistula.

Diagnosis.—Whenever there is a history of progressive constipation and futile straining at stool, frequent fetid evacuations of mucus, blood or pus, a careful rectal examination is imperative.

It is not only necessary to determine the existence of stricture but also its seat, pathological character, extent and degree of constriction. If all of the pathologic change is low in the rectum within the reach of the finger, the information is easily obtained by digital and specular examination. The history of the case will give valuable information as to the existence and probable pathological character. Previous injury or operation, diffuse proctitis, pelvic cellulitis, prolonged labor, the history of perirectal or pelvi-rectal abscess, syphilis, fistula or rectal ulceration, may suggest a stricture especially if associated with increasing difficulty in bowel movements.

Examination.—The patient is placed in the left prone position, the knees well flexed and the hips raised upon a pillow.

Inspection is often suggestive. Fistulae may be seen or an anal discharge is noted. In tubercular or cancerous stricture the peri-anal fat may be absorbed but in inflammatory or syphilitic strictures it is not impaired.

When there is a discharge from the parts the character and odor should be carefully observed, the odor of cancer is muco-purulent and is quite distinctive, not fecal but a peculiar putrescence due to the gangreneous flesh decomposing feces and other discharges and bears no resemblance to any other pathologic state.

In syphilitic stricture and ulceration the discharge is more profuse, of dark color and offensive odor. Tubercular stricture is accompanied with a creamy discharge similar to that of tubercular fistula, the odor of which is practically imperceptible.

Digital.—Digital examination is our chief source of information and the utmost care and gentleness must be exercised in making such an examination, so as to cause the patient as little pain as is only absolutely necessary and also to prevent exciting the sphincter to spasm, always bearing in mind the possibility of tearing the ulcerated structures and causing serious hemorrhage or even rupture of the bowel.

The rectal vault in the fibrous stricture tapers toward the stricture like a cone, the fundus may appear filled with granulations, but the scar tissue will be smooth and hard. The neighboring wall is always more or less stiffened. Cancer presents a nodular, hard, infiltrating stricture which bulges out into the bowel or is breaking down with an irregular crater-like ulcer surrounded with friable, exuberant granulations. The inflammatory stricture is comparatively smooth and hard, apparently confined to the bowel and free from adjoining organs. The vault of the rectum is abrupt in cancerous stricture while it is more conical in syphilitic obstruction. The simple inflammatory and the tubercular strictures are limited to a small length of bowel. Congenital and traumatic (including operative) strictures present few difficulties in diagnosis. They are usually annular and ulceration is limited or absent. In thin subjects the finger can explore five or six inches and even the recto-sigmoid junction by making counter pressure on the abdomen.

If the finger cannot pass the stricture easily it must not, under any circumstances, be forced, as nothing can be gained by so doing and any such effort causes pain and possible rupture of the bowel.

In making a digital examination the finger may find an aperture which is not the bowel lumen but which may lead to an ulcerating pocket over which there may be but a very thin wall. Added information may be obtained when examining females by the combined vaginal and rectal manipulation. In men the bimanual with one hand on the abdomen may grasp the mass between the examining hands and determine its height. During this manipulation one can determine the fixity of the mass to the sacrum or other pelvic viscera and aid in determining the expediency of operation. If it is attached to the sacrum, prostate or uterus its removal will be more difficult.

Proctoscopy.—Following the digital examination an instrumental exploration is attempted, through the proctoscope. Employing different lengths and diameters, we note the ulcerations or strictures beyond the reach of the finger and by diligence can usually determine the length of the stricture and the extent of the ulceration. Bougies and probes may be useful but always remember that even a soft and flexible bougie may do much damage. A bougie can be caught in a fold of the

mucosa or impinge on the promontory of the sacrum and should only be used through the proctoscope.

Upon inspection, the mucous membrane is red, uneven with cicatricial spots, sometimes with vegetations and small ulcers. The stricture itself is stiff, hard and gray in color in striking contrast with the mucous membrane lower down. When the proctoscope can pass through the stricture it reveals a red mucous membrane obviously inflamed and some small, rounded and bleeding ulcers.

Differential Diagnosis.—A Wassermann reaction for syphilitic diagnosis and tuberculin for tuberculosis should be used in suspected cases. Finally, roentgenograms are made twenty-four hours after a bismuth meal and also after a barium clysm. These (a) outline the stricture, (b) demonstrate others at a higher level, a rare occurrence but one to be anticipated, and (c) show length of sigmoid available in case of operation.

STRICTURE	INTUSSUSCEPTION	CARCINOMA	SARCOMA
Symptoms persistent and continuing over a period of years.	Periods of relief from symptoms.	Symptoms all constant and rapidly progressing over a few weeks or months.	
No loss of weight.	Loss of weight.	Loss of weight.	Rapid loss of weight.
Constant discharge of blood, mucus and pus.	Periodic discharge of blood, mucus and pus, after which patient feels relieved.	Constant discharge of blood, mucus and pus.	Discharge rare.
Cachexia absent.	Cachexia absent.	Cachexia present late.	
Pain—may or may not be present.	Dragging pain in left iliac region or in lumbo sacral region relieved by enema.	Variable, no pain early, an uncomfortable sensation later referred to sacrum.	
Digitally a hard, smooth induration, adhesions limited.	Soft mass resembling uterine cervix, no adhesions.	Hard indurated mass, adhesions to sacrum and pelvic viscera.	
Onset gradual, many years.		Runs its course in 2 or 3 years.	Onset rapid.
Odor, fecal, varying with the extent of the ulceration.		Nauseating, gangrenous.	
Specular view, bluish white scar tissue.			

ASSOCIATED PATHOLOGY

Hemorrhoids are frequently associated with rectal stricture because of the impeded return blood current and sometimes the patient thinks the hemorrhoids are his whole complaint.

In many cases the stricture is complicated by a neighboring suppuration and sometimes the abscess or the resulting fistula is the first sign attracting the patient's attention. Fistula occurs in about one-third of the cases. When present

they are often multiple, intercommunicating, situated near the anus, in the ischio-rectal fossae, near the coccyx, the perineum or at the vulva and nearly always have their internal opening just below the stricture.

Hernia because of the constant straining incident to defecation is occasionally met.

Condylomata or syphiloma of the skin are sometimes seen with syphilitic stricture although they are not dependent upon the stenosis and are more often seen without the association.

Prognosis: The prognosis varies with the nature of the stricture and the treatment instituted. For congenital and traumatic cases the prognosis is good. For inflammatory strictures the tuberculous excepted, good management will insure a life of comparative comfort in most cases, and sometimes an operative cure can be effected. If neglected, abscess, fistula development bring on exhaustion; peritonitis from perforation of the distended colon may occur or complete obstruction with stercoral vomiting and clammy skin precede coma and death.

Treatment: Prophylactic. Recognizing the fact that strictures are all due to inflammatory process, it is conceivable that proper treatment in the early stages may prevent their formation.

Following every operation upon or diseases of the rectum our patient should be kept under observation for many months that any possibility of stricture formation may be anticipated. In the case of simple infection a careful antiseptic treatment may often prevent the formation of a stricture. Most ulcers in their early stages respond to local and constitutional treatment, healing with a scar limited to the mucosa, or mucosa and submucosa, with no marked narrowing of the bowel lumen. Thus the greatest measure of prevention is to heal the ulcer in the prestricture stage.

Diet: Careful attention must be given that our patient have nourishing but non-irritating food, which also leaves little residue; therefore vegetables with cellulose are avoided. At the same time the diet must be generous and of sufficient variety that physical strength and weight be maintained. Slow eating with thorough mastication must be enjoined to prevent the accumulation of large masses in the fecal bolus which might obstruct the bowel above the stricture. Potatoes should be well baked or thoroughly mashed. Milk is acceptable to the stomach and

upper intestine but in the colon it forms hard, leathery masses which are particularly dangerous in stricture. A mixed diet is composed of well chewed or chopped meat, soup, rice, hominy, ice cream, fruits, chocolate, fish, oysters and vegetables, salads with a bountiful supply of oil dressings. Patients with advanced stricture are debilitated and emaciated and the diet must be liberal. When selected diet fails to maintain a soft stool such as will be spontaneously voided it will be necessary to resort to laxatives. Active purgatives are to be avoided, preference being given to salines. Small doses of magnesium sulphate, 3 parts, with sodium bicarbonate, 1 part, in an abundance of water, usually acts well, and for occasional change castor oil, rhubarb or cascara sagrada may be substituted.

Diarrhea associated with stricture is due to impaction of feces above the stricture or to acute ulceration of the bowel or to the accumulation of mucus and pus which leaks down toward the anus and occasions a desire to go to stool. Cleansing enemas carefully given each day are of the greatest benefit, such as 2 per cent argyrol in water or the same strength of ichthyol or 25 per cent aqueous solution of krameria. It is sometimes well to add 4 ounces of glycerin or olive oil to the enema to assist softening of the fecal mass.

A 10 per cent solution of hydrogen peroxide will effectively clear out any scybala or dense fecal accumulations above the stricture. These accumulations are always a source of irritation to the supra-strictural ulcer and liable to result in impaction and complete obstruction.

Technic: The proper mode of administering the enema is vital. It is not necessary that the enema tube pass through the stricture. That portion of the bowel below the stricture may be washed with a few ounces of fluid previous to giving the enema and thus any accumulation of feces and gas is expelled. By so doing the desire to expel the enema is lessened. In order to lessen the abdominal pressure and allow the sigmoid to drop into the abdomen the patient is placed in the knee-chest position. This also lessens the acuteness of the splenic and hepatic flexures. With the patient in this position the enema reservoir need not be more than six inches above the level of the anus. Gravity also aids and the water trickles in slowly without causing spasm of the colon. If the enema is given with the bag elevated several feet above the hips as so often

occurs the sudden rush of fluid excites spasmodic contraction of the bowel with severe colicky pain and but a small amount of water enters the bowel. No. 12 soft rubber urethral catheter is anointed and inserted past the sphincter muscles; there is no need of passing it further. In the absence of a rubber catheter, a short rectal tip may be used but it is more likely to irritate the anus.

Dilatation: The radical treatment of stricture depends on its location, character and the amount of bowel involved. Strictures within the last one and one-half inches of the bowel can be relieved by gradual dilatation or some minor operation. Stenosis higher in the rectum of tubular type and reaching the peritoneal reflection can be benefited only by colostomy. If seen early however even these patients can often be carried along very comfortably by careful, repeated dilatations. This treatment is further employed after proctotomy to maintain patency. Forcible dilatation by metallic dilators or hydrostatic pressure is so likely to rupture the bowel that it should never be used. Dilating a stricture high in the rectum or in the sigmoid is a dangerous procedure even in skilled hands as there is no way of knowing just how much stretching the bowel will stand, and if it ruptures it does so in the long axis of the bowel and will open into the peritoneum.

The theory upon which gradual dilatation has succeeded in curing a certain number of strictures of the urethra is that it squeezes the blood out of the strictured area, and when the instrument is withdrawn there ensues a state of arterial hyperemia which results in absorption of the newly formed tissues. During the early stages of stricture the blood vessels remain intact, and are not materially diminished in number, the plastic deposit is soft and absorbable.

Weekly and semi-weekly examinations with the finger will note the tonus of the sphincters, the patency of the rectal canal and any vicious healing that may occur. Careful massaging with the finger followed by instrumental dilatation determines a hyperemia of the tissues. The increased local blood supply so badly needed absorbs the beginning sclerosis and restores resiliency to the anal and rectal canal. Following the massage a proctoscope is introduced and through it a tampon of lamb's wool saturated with 10 per cent, ichthol and glycerin in oil is applied to the scar tissue and allowed to remain until the following morning. Syphilitic patients require both in-

ternal medication and local treatment to relieve the cellular infiltration and endarteritis. Once a dense fibrous cicatricial tissue has formed the blood supply is crushed out and there is no hope of absorption of the stricture.

Gradual dilatation is the method used throughout the world of surgery, notwithstanding that it is seldom if ever curative, and entails periodical visits and treatment through life. It is carried on by the use of bougies and rectal dilators, and requires skill and good surgical judgment and is not without danger in the hands of the most skillful. There are various methods of introducing the bougie.

Technic of Passing a Bougie: If the stricture is within one and one-half inches from the anus it is usually an easy matter to find the orifice of the stricture with the left index finger and then guide the bougie along the finger and into the opening. The soft rubber Wale's bougie is hollow and when introduced until it meets obstruction water is injected through it in order to lift out of its way any fold of mucous membrane or fecal mass. If the stricture is above the reach of the examining finger or if its opening cannot be easily found, a proctoscope should be introduced and the dilator passed through it into the stricture. A small instrument should be tried first and then larger sizes until the largest one is found that can be introduced without causing pain. If pain is caused irritation is produced and the benefit of the treatment is lost. When this has been determined the speculum is withdrawn and the bougie is allowed to remain in place for fifteen minutes.

Before removing the last bougie for that day, a warm solution of boric acid should be introduced through the bougie, which brings away everything above the strictured area when the bougie is withdrawn. The patient should be kept quiet after the treatment for at least a half hour, and if there is any bleeding upon the withdrawal of the bougie the proctoscope should be immediately introduced to see the seriousness of such hemorrhage, for he should not be allowed to leave the office until all doubt is dispelled.

If this is carefully done so as not to irritate the patient's anus and rectum these treatments may be repeated three times per week for six weeks thereafter. Undue haste or roughness in manipulations will excite acute inflammation, thus further increasing the constriction and pain

and demand a temporary discontinuance of the treatments. A record should be kept of the sized instrument used at the last treatment and next time begin with the one size smaller than the largest size used at the previous treatment. Thus by passing three sounds at each seance an increase is constantly maintained until a No. 10 can be retained for fifteen minutes. After each dilatation the bowel should be irrigated with normal saline solution. An old dense stricture requires prolonged continuous pressure to overcome its mechanical resistance, and the bougie may be left in place several hours, perhaps over night. But where the stricture is more yielding a few minutes stretching is enough and the instrument should be immediately withdrawn.

Electrolysis: In the traumatic or post operative strictures much benefit may be obtained by the use of bougie electrodes attached to the negative pole of the galvanic current. An insulated plated rectal electrode, large enough to fully engage the stricture, is attached to the negative pole of the galvanic current and placed in position. The positive pole may be placed under the buttock or leg of the patient. The current is gradually turned on being partly governed by the sensations of the patient, but if no objection is made from 5 to 20 milli-amperes are given continuously for fifteen to twenty minutes. Treatments may be given once every ten days or two weeks.

Considerable soreness follows the treatment, varying quite materially in different individuals and conditions. For this reason it is best to use the milder current strength for ten minutes' duration at the first treatment, gradually increasing it and lengthening the time of its application according to effect.

During the intervals between treatment, anti-septic washes and the other palliative measures should be continued, passing bougies or the electrode without the current, every few days. If these palliative measures are begun before the fibrous tissue has become fully cicatrized and while it is yet elastic much may be accomplished but if the stricture is hard, dense and unyielding, little can be expected short of operative measures.

Linear Incisions: (Internal Proctotomy). If the stricture is in the anal canal multiple radial incisions may be made through the stenosis and the canal widely opened. The patient, under general anesthetic, is placed in the extreme

lithotomy position the hips well raised on pillows. The opening in the stricture is located with the index finger which is carried through the orifice if possible. Using the examining finger as a guide, a blunt pointed straight blade bistoury is passed through the opening to a point above the induration about the stricture. Turning the cutting edge of the knife toward the coccyx the cicatrix is cut through. Other incisions are made at different points around the stricture. Four to six such incisions are usually enough and the anal canal can be widely opened with a bivalve speculum. A final thorough digital exploration is made to ascertain that the induration is completely divided. A diligent search is also made for spurting blood vessels which if found should be ligated.

If any ragged edges are formed, or if fibrous segments appear between the points of incision, they may be removed immediately.

The hemorrhage following this operation is slight if the incision is not carried deeper than the fibrous tissue, and there is no reason why this should be done, as the contraction does not occur in the normal tissue. Should there be hemorrhage it will not be likely to prove serious unless the stricture should be located high in the rectum, and fortunately the majority of strictures occur in the lower portions.

A thick walled rubber tube, one-half or three-quarters of an inch thick and six inches long is wrapped with gauze then covered with rubber dam and annointed with vaseline. This tube is introduced until its distal end just appears at the anus and in this position maintains continuous distention of the operative field. A stout silk thread transfixing the lower end of the tube attaches it to the pad of folded gauze sponges applied to the perineum. The tube is removed in 48 hours and the wound irrigated with normal salt solution. During convalescence dilatation is practiced every day with a bivalve speculum or a conical dilator. After healing takes place bougies should be regularly passed. The dilators and bougies should always be well anointed with olive oil before using. The bowels should not be restrained but rather the stools should be kept soft.

Proctotomy: This operation is limited to strictures involving only the rectum or that do not extend upwards more than one inch above the peritoneal reflection. It is also a safe opera-

tion having a low mortality. Roentgenograms should always be taken during the study of the stricture and if the upper and lower limits cannot be outlined it may be necessary to open the abdomen to determine the amount of intestinal involvement. It is of course useless to do a sacral proctotomy if the sigmoid is invaded with a hyperplastic inflammation which will subsequently end in cicatricial contraction.

The patient is placed in the left semi-prone position with the head lowered. An incision is made along the right side of the sacrum from just below the posterior inferior spine of the ileum down almost to the anus, exposing the coccyx and the origin of the gluteus maximus muscle. The operator's left index finger is inserted between the rectum and the sacrum and the gluteus maximus is detached from its bony attachment. The coccyx is detached and turned back with the superficial flap. If more space is required a portion of the sacrum may also be removed but resection of the sacrum adds very little to the exposure of the operative field and contributes very much to the shock of the patient. The rectum has now been exposed into the hollow of the sacrum. The superior hemorrhoidal artery on the posterior wall of the rectum is identified and avoided in making the longitudinal incision through the stenosed area. All bleeding points are picked up and the possible existence of other strictures is thought of and the rectum is thoroughly explored. Longitudinal incisions may be made through various parts of the fibrous stricture thus facilitating full dilatation of the bowel. Having assured ourselves that the condition is relieved, a full sized bougie is passed well up into the sigmoid. After the bougie is removed a large drainage tube is introduced at the anus and carried well above the field of operation to assist in carrying out the gas and liquids without contaminating the wound.

The split edges of the rectal wound are now approximated over the drainage tube and sutured together through the muscular wall of the bowel, the sutures not penetrating the mucosa. Drainage is provided for the retro-rectal space.

There is usually considerable serosanguineous discharge from the wound for the first two days. On the second day the packing is removed, the cavity washed out with warm saline solution, and repacked using less gauze at each packing. After the bowels begin to move our patient should have

a daily enema. If the evacuations are liquid or frequent they should be controlled by the administration of deodorized tincture of opium. As soon as the tube is removed dilatation is begun and must be continued. Primary union is not the rule, most patients suffer with a fecal fistula for a time but as the sphincters are not injured the possibility of incontinence is spared.

Excision: It is rarely advisable to resort to excision in non-malignant fibrous stricture and because of the tendency to recurrence of the stenosis at the site of operation this procedure has little or no advantage over proctotomy in re-establishing the functional activity of the rectum. It is applicable only in low seated annular strictures and should not be attempted in the tubular variety. We have described this technic in the consideration of cancer of the rectum and need not repeat here.

Colostomy: Is the operation of choice in tubular obliteration of the rectal canal or in stricture in the pelvic colon.

Colostomy enables us to explore the abdominal cavity and relieves obstruction and toxemia, and should be advised in all strictures that obliterate the rectal ampulla or sigmoid. Earlier surgeons reserved this operation until obstruction was imminent or until the pain was unbearable. Colostomy is now performed earlier because it affords physiological rest and drainage to the ulcerated surfaces and relieves infection. When this is done as a preliminary procedure to perineal surgery our results are much better than by any other method. After the stricture has been excised or dilated and the rectal condition apparently cured the fecal current can be restored.

In resume of this very perplexing subject it is our procedure with patients with a stricture in the lower rectum ($1\frac{1}{2}$ inches from anus) and anal canal to use gradual dilatation. If above this limit but still confined to the rectum we prefer proctotomy and if above the reach of the finger we advise colostomy deciding after the abdomen is opened whether excision and anastomosis is feasible or not. If the temporary colostomy is to be provided it should be made into the transverse colon that the surgeon may later have a freely movable sigmoid to bring down.

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Fig. 1. Constriction of Rectum at site of Rectal Valves.

THE USE OF RADIUM IN GYNECOLOGY*

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Radium has come to be one of the important factors in the armamentarium of the gynecologist. Yet we may question whether, with the expansion of its use, has come a corresponding extension of clear conception of its indications and contra-indications. An agent as powerful as radium must necessarily possess a considerable potentiality for evil. Properly used it is one of the most valuable additions which recent years have brought to us. Yet some of the cases seen by gynecological surgeons, in which suggestions are made by attending physicians as to irradiation, would cause it to appear that clearly defined ideas of its proper use have not yet reached all of our profession. For convenience of consideration we may group the conditions under which it may be used as follows:

1. Non-malignant states causing bleeding.
 - (a) Myopathic bleeding—uterine insufficiency.
 - (b) Fibroids.
2. Carcinoma.
3. Inflammatory conditions.
4. Symptoms other than bleeding, caused by menstruation.

The most frequent occasion for irradiation is bleeding occurring at or near the menopause. This may sometimes be quite severe and become the cause of a marked secondary anemia. Drug therapy is of little use. We formerly made use of curettage, and if this failed, resorted to subtotal hysterectomy. These cases today may almost without exception be managed by the use of radium. Most of these women are over forty. Under that age one should approach the application of radium with due consideration. Above that age, with the menopause not far off, or indeed in the act of accomplishing itself, as evidenced by the hemorrhage, one may irradiate without compunction. A dose of 1000 to 1200 mgm. hours is sufficient. The technic of application is now so well understood that discussion of it is needless. One practical point may be

spoken of, which has been impressed by unpleasant experience upon the minds of a number of workers in this field, myself among the number. After the radium capsule has been placed in the body of the uterus, one should place the end of a piece of narrow uterine packing, or other bit of gauze, up to and just through the internal os, in order that the capsule may not slip down upon it. This has been known to cause enough reaction at that point to cause a later stenosis with development of a pyometra or hematometra.

We may expect relief of bleeding in these cases in a little over 90 per cent. In about 150 applications of radium for bleeding in either simple insufficiency or in small fibroids we had results a trifle better than that, about 93 per cent. So large a proportion of these cases are relieved by irradiation that we may regard this form of therapy as of more value than any other.

The treatment of fibroids by irradiation gives good results within a limited field. Before choosing irradiation one should consider carefully whether any contra-indication exists. In uterine bleeding from insufficiency or fibroid one should keep clearly in mind that pelvic infection renders the use of radium in the uterus dangerous. Pelvic infection in the acute stage may cause uterine bleeding. One should be quite certain that the bleeding to be treated is not of this type. The application of radium in a case of this sort would be dangerous. Old and apparently quiescent infections may be rendered acute. A history of pelvic infection should cause irradiation to be rejected. Again in women under forty radium should be chosen only after careful consideration. Permanently to stop bleeding means enough irradiation to cause a cessation of ovarian activity. Many times an operation is a lesser evil than this. Particularly in fibroids, it is better to remove the cause of the bleeding by hysterectomy or possibly myomectomy, leaving the ovaries, than to produce a menopause years before it is normally to be expected.

It is better for the women who are to be irradiated to be over forty, the further over the better. Again, when considering irradiation for fibroids, after carefully excluding the possibility of infection, and after refraining from suggesting its use in women who are young enough to make some other form of treatment preferable,

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we have found it advisable to restrict its use to the smaller growths. Our usual practical rule is to radiate only in tumors not over the size of a three months' pregnancy. Even smaller than this is better. Again tumors located on the outer part of the uterine wall, are not well fitted for irradiation. These generally do not bleed and therefore do not need it. Having considered all these limitations it is clear that the fibroids suitable for irradiation are found in a rather restricted field. Within this field radium is of great use. Restriction as to size may be disregarded when the woman is a poor surgical risk.

The dosage for fibroids should be a little larger than for simple bleeding. Twelve to fifteen hundred milligram hours as a rule suffice. In applying radium in cases of fibroid it is well to ascertain prior to placing the capsule in the uterus whether any tortuosity of the canal may possibly interfere with its removal. Should this appear to be likely it is better to make use of some other treatment.

The relief from bleeding after irradiation is not always immediate. Many women will have a period after treatment and may flow rather freely. This is especially apt to be so if a fibroid is present. In about one quarter of the cases a second period may appear. This second period is usually scanty, but may, in exceptional cases be rather free. After this, as a rule, no further bleeding appears. We prefer, when the length of the uterine canal makes it feasible, and particularly when irradiating for bleeding caused by fibroids, to use 100 mgms. of radium in two capsules placed tandem in the uterine canal. This subjects the entire body of the uterus more evenly to the action of the rays.

A leukorrheal discharge may be present for a time, usually a few weeks, after irradiation. This disappears or lessens of itself, and sometimes a previously troublesome discharge may be made less so after the full effect of the radium has been exerted.

A third sequela may be a watery discharge. This lasts from four to six weeks, disappears of itself, and needs no treatment. Explanation to the patient as to these results of treatment before she leaves the hospital will save explanation later.

Irradiation in this group of cases is quite safe if scrupulous attention is paid to the possible presence of latent infection, and if the usual

precautions as to asepsis which should accompany any surgical procedure are observed. In over 150 such cases we have had no death and only one severe febrile reaction. This was early in our work in this field, before we had come to appreciate fully the importance of excluding any case in which infection might be present. By all means the most important part of radium therapy is the selection of cases. This means careful gynecological diagnosis. The application of the radium is so simple that a man of small operative experience may easily do it. Accurate recognition of pelvic pathology is sometimes difficult even for the expert examiner. We feel, therefore, that irradiation for pelvic disease should be done by the gynecological surgeon. Radium therapy is not a competitor of surgery in this field, but is itself a part of pelvic surgery. The woman who requires relief from bleeding is most safely cared for by one who can intelligently differentiate between conditions which will respond well to irradiation and those which should be operated upon. Radium unintelligently used is not without danger. One should approach these cases with an open mind, without prejudice for either irradiation or surgery. This is difficult alike for the specialist in radiology or for the surgeon whose experience is wholly operative.

In the treatment of cancer we must sharply distinguish between cancer of the corpus and cancer of the cervix. The former should not be irradiated. Metastasis occurs comparatively late in cancer of the body of the uterus. Operative results are so good that surgical treatment should be the rule. Our results in these cases have been very satisfactory, and this experience is reported from practically every active clinic.

Cancer of the cervix is an entirely different matter. Opinions still vary as to the relative merits of irradiation and operation, but radium has of late had the more adherents. Some very far advanced cases are better off with neither.

In our own service we choose operation in carcinoma of the cervix only in those cases in which the growth is clearly confined to the cervix, the uterus freely movable, and a margin of healthy cervical mucosa between the cancer and the vaginal wall. These are quite the exception and we have seen only three in the past three years. One of these was irradiated and is now in an advanced stage of the disease and will probably live

but a few months more. The other two were operated upon, and so far as pathological examination could determine, the carcinoma was confined to the excised uterus. Operation has been too recent to be certain as to the final outcome.

The great majority of cases which the surgeon sees are beyond the limits named above. In these radium is of great value. It enables us to prolong life, stop bleeding, do away with the foul discharge, and give the woman for a time decidedly greater comfort. A few very simple practical points are of value. Radium is best used in the form of a tube in the cervical canal, together with needles placed at the periphery of the growth in a circle. This applies to the larger number of men who are able to use radium in smaller amount. In those fortunate institutions in which a gram is available a different technic is used. Less than 100 mgms., however, is of very little use in cancer. Too small an amount may do harm. The mode of application just alluded to permits of cross firing the growth and the needles in the outlying part help to extend the area over which the effect of the radium is exerted. If, in order to place a tube in the cervix, the canal must be dilated, it is better to burn it with a cautery to the necessary diameter rather than to use dilators. The latter may cause cracks in the growth and open lymph spaces, and thus tend to spread the cancer. If any part of the cancer mass must be removed, it should be done with a cautery or by diathermy. Removal of cancer tissue with a curette is not wise.

The first dose is the all-important one. We are accustomed to give from 3500 to 4000 milligram hours and not to repeat unless evidence of later extension is seen. We have for some time had our patients take one series of deep x-ray exposures about six weeks after the use of radium. I am still to be convinced of the actual value of this but we expect to continue it for the present.

The immediate results are often exceedingly good. Great masses of cancer filling the vaginal vault disappear, bleeding ceases, the uterus sometimes becomes more moveable, and the woman is given at least a period of comfort and some lengthening of life. While the number of five-year cures is not flattering, there appear to be about as many as after radical operation. The radium has the advantage of avoiding the primary operative mortality, which is considerable,

in some good clinics where all operations are done by skillful operators averaging over ten per cent. In less experienced hands the mortality of radical surgical interference for cervical cancer would be far higher. He who essays a difficult surgical procedure should remember, when asked the risk, that the mortality rate of some world famous clinic does not supply the answer. The risk his patient takes is evidenced by his own personal results. Operation should not be chosen in cervical cancer except in exceptional instances. We prefer to radiate almost all of our cases, operating on those only in which painstaking investigation shows that the cancer is confined to the uterus, and we are certain that the uterus may be removed without going into any area which is invaded by cancer. This reduces our operable cases to a very small number.

In view of what has been said concerning the importance of excluding all infected cases from radium therapy the inclusion of a group of inflammations may seem strange. The only product of infection which may be treated at all by irradiation is chronic endocervicitis. The relief of persistent leukorrheal discharges has been a gynecological problem for a long time. The use of radium in the cervical canal has been suggested by Curtis, for the purpose of destroying wholly or in part the infected glands of the cervical mucosa. Our own experience with this method of treatment has been small and not wholly satisfactory. In younger women one must always keep in mind the danger of affecting the ovaries and also of producing a rigidity of the cervix by the production of scar tissue which results from irradiation. These facts, together with the conclusion that the method is probably not as effective as we had hoped it might be, will probably prevent this mode of treatment from attaining a wide use. Dosage should be quite small, 250-300 mgm. hours, the radium thinly screened and fastened in the cervix by a suture or a Michel clip. It should not be used in any case in which an infection of the tubes has ever been present.

There are occasionally and quite exceptionally cases in which irradiation may be used for the relief of symptoms connected with the period, and which are sufficiently severe to demand relief, even at the expense of producing a permanent amenorrhea. In our own experience this has occurred but once. This was in a woman of 38, who had had a sufficiently severe toxemia of

early pregnancy to necessitate therapeutic abortion. Her only other pregnancy had ended in eclampsia at eight months. She had headaches every month of unusual severity and duration, being disabled ten days out of each month. Her physician, one of Chicago's best known internists, had labored faithfully to control the headache without success. All possible investigations for foci of infection had been made. When she was referred to me he raised the question whether, as the pain was distinctly periodic, it would not be justifiable to stop menstruation. This was done by irradiation with almost complete relief from the headaches. The admission of an occasional case of this sort to radium therapy does not justify its frequent and careless use upon women before the menopause for less than completely sufficient reasons.

FRACTURE OF THE NECK OF THE HUMERUS.*

CLYDE A. FINLEY, M. D.,
GALESBURG, ILL.

This paper deals only with that type of fracture in which the break is near the head of the bone and the proximal fragment is more or less comminuted. This injury occurs only in direct violence either by being struck a forcible blow with some object driven by external force or by the body falling heavily against some other object and receiving the force of the impact at the site of fracture. Of the six cases treated one fell from the side of a freight car and struck on the shoulder against the edge of a steel rail, one fell from a windowsill and struck the back of a chair, two fell from bicycles against the corner of the curbstone, one was struck by a pitchfork handle which had been snatched away from him by a moving belt and whirled around the belt-wheel and one was picked up by a belt, whirled around a belt-wheel and thrown against a cement abutment.

These cases all presented the picture more of a dislocation than of fracture, except the end of the displaced shaft seemed to be lacking in the usual ball-like feel of the head of the humerus. On four of these cases attempt at reduction for dislocation was made previous to the time I saw them. My first step in diagnosis, as is my

usual method in all cases where bone injury may be possible, was an x-ray picture. This shows at once the condition to be dealt with and spares the patient considerable suffering as well as avoiding the possibility of doing damage by the sharp points on the end of the displaced fragment. Open operation was done in all cases. In none of them was there much comminution of the end of the lower fragment, the line of fracture being generally transverse with one or more sharp protruding angles. The upper fragment was badly splintered as far as bony structure was concerned, and in one case the cartilaginous joint surface was fractured across part of its face.

It had formerly been my custom in this class of injury to remove the proximal fragment in toto, smooth off the end of the lower fragment and shove it up into the glenoid cavity, and employ one or another kind of fixation for the arm and shoulder. It will always be found that the upper fragment is firmly held by the capsular ligament, even though this ligament be badly lacerated. The best approach is through the deltoid muscle, separating the fibres from below upward with a blunt dissector in order to avoid injury to the circumflex artery, vein and nerve. The work on the bone consists in first turning out the end of the lower fragment, removing all sharp points and rounding off the edges. This is then depressed and all loose fragments, some of which are usually found imbedded in the cancellous tissue of the head, are removed. The cancellous structure is then removed, scraping out everything from within the head down to solid bone. All sharp points are removed and the edges rounded off. This leaves a smooth cup-like structure held by the capsular ligament. The smooth end of the lower fragment is now raised and inserted into this cup. If possible secure the fragments together with suture between the insertion of the capsular ligament and periosteum, or tendon or ligament. The wound is closed without drainage.

Any form of fixation may be used, simply being sure that proper position, especially that of rotation, is maintained. This operation gives very close to one hundred per cent. functional as well as anatomical results.

DISCUSSION

Dr. S. C. Woldenburg, Chicago: I want to bring out a few points for I am quite in doubt as to the statements Dr. Finley has made. First, if I under-

*Read before Section on Surgery, Illinois State Medical Society, Quincy, May 19-21, 1925.

stand correctly, he is dealing with a fracture of the surgical neck of the humerus or close to the joint. He states that all these fractures are mostly comminuted. I understand by a comminuted fracture that the proximal fragment is split. If I got his interpretation correctly he corrected the fracture by making a cavity and shifting the lower fragment into the cavity. I do not believe that I quite understand that point, as I do not see how it is possible for one to gouge out a cavity in a comminuted fracture.

Another point I want to emphasize. The Doctor says there is very little shortening by pushing the lower fragment into that cavity and that there is 100 per cent function. I do not see how this is possible. I realize that I am an embryo Orthopedic Surgeon, but do believe that I have had some experience with fractures by being connected with the Veteran's Bureau, where I had over 150 fracture cases on the service over long periods of time, and cannot see how a person can make it a general rule to operate on all these fractures. I would rather be inclined to be less radical in this type of fracture, more so than in any other type, and therefore would try a closed reduction first before I did anything else. In my own experience, which is over a half-dozen of these cases, I got fairly good results with the aeroplane splint or the modified Thomas splint.

Another point I want to bring out. The Doctor says it should be dressed in internal rotation with extreme abduction. If you will put up a fracture in flexion and abduction and external rotation when possible, you are going to get not 100 per cent, but approximately 90 per cent, and if you do not like to put the patient up in that way, traction, abduction and external rotation, according to the method of Joseph Blake of New York, will give very satisfactory results. If you can keep the patient in bed for two or three weeks you will get 100 per cent results, with the method stated above.

I do not see how we can accept the idea of doing an open operation on a fracture of this kind, when a less radical procedure will give a much better result.

Dr. B. E. Le Master, Bushnell: I would like to ask the Doctor if in any of these cases the head of the bone was dislocated. If the head were dislocated it may be necessary to put it back by open operation.

Dr. J. R. Harger, Chicago: Why operate if results can be obtained without operation? I have found the non-operative method very satisfactory in most of these cases.

Dr. C. Finley, Galesburg (closing the discussion): In answer to Dr. Woldenburg's remarks, I am not talking about the surgical neck or the anatomical neck; I am talking about fracture close to the head where there is a comminution which in some cases extends across the cartilaginous surface. The fracture is usually transverse but there may be a fragment or two sticking up. That is the type of fracture I am talking about, not a dislocation. The Doctor speaks about not being able to excavate the upper fragment. You will get an excavation at least one inch

deep in this type of fracture. I have not had a case in which there was not a cavity at least one inch deep.

Doctor Harger wanted to know why we did not treat this fracture with a closed operation instead of an open. You have a comminution extending into the soft tissues and you are going to have a callus thrown out. You are going to have a mass of bone accumulate that will not give much function. You will not get results except by the open method. You excavate the head of this bone; you have a cavity that is practically an inch deep. The head is up in the glenoid cavity. You put your blunt instrument down against the shaft of the bone and go up. You are not going above the insertion of the capsular ligament. If the arm is properly immobilized you will have 100 per cent function. I am not condemning the aeroplane splint, but I have obtained good results by my method.

SCROTAL CALCULI.

L. BRANNON, M. D.,

JOLIET, ILL.

Apparently vesicle stones in the scrotum are rarely found. There are no cases reported in the literature which I have or have access to. The consulting bureau of the W. F. Prior Company, Inc., have furnished me with the reports of two cases. The first reported by J. T. Tazvitski: (a case of Uric Stones in the Cellular Tissue of the Scrotum.) *Lietopis Russkoi Khirurgii*, St. Petersburg, 111, 319. Year, 1898. The second case—J. L. White, Case of Urethral Stricture with Calculus in the Scrotum. *Medical Record and Annals*, 1924, XVIII, 136.

The author wishes to report the case of Mr. J. McG., age 55, married 36 years, Railroad engineer. Always in the best of health. Never had urethritis or any disease of the genital organs. Since a child he knew there was a hard lump at about the posterior end of the anterior urethra. This lump had gradually increased until it reached the size of a hen's egg. He never consulted a physician as it never gave him any inconvenience, pain or difficulty in urinating. A short time before the present trouble started he wore a pair of overalls that were tight and caused considerable pressure on the scrotum. He thought this brought on the present trouble for he soon noticed a constant desire to urinate which was painful, burning and difficult. The difficulty in urinating increased, the stream became smaller until the urine came in drops. On the night of April 17, he was unable to pass any urine and catheterization had to be restored to. There was enough pus on the meatus to

enable me to get a smear, which contained many staphylococci and streptococci but no gonococci. Ice was kept on the scrotum and the bladder emptied twice daily with a soft No. 2F. rubber catheter until April 23 when he was removed to the St. Joseph Hospital for the purpose of having the scrotal abscess opened and drained. April 24, with gas anesthesia, an incision was made in the skin of the scrotum a little to the left of the raphe and just below the point where the skin of the scrotum is attached to the penis. An ounce or more of foul smelling pus was removed and on inserting my finger into the wound I found several stones which were hurriedly removed by crushing with forceps and curet. The wound was packed with iodoform gauze. There was no chance to see how large the opening into the posterior urethra was, for the patient was not doing well and the anesthetist discontinued the anesthetic. The operation was completed in seven minutes. The stones weighed 57.4 grams. The testicles were normal, a part of the urine came through the wound though he voided twenty-two ounces during the first 24 hours. The morning following the operation his temperature, pulse, and general condition were normal and remained so until the afternoon of April 28 when his temperature rose to 104 and pulse 120. This was doubtless due to the insertion of a urethral sound, a few hours before. A sound had been inserted every third day and the number increased to 30 F. April 29, temperature, pulse and general condition were normal and have continued so. He sat up April 30. He left the hospital May 6 and the wound in the scrotum has been closed since May 20. May 25th cystoscopic examination showed severe cystitis. Ureters were not catheterized for fear of transmitting the infection. June 1, urinalysis—Wilson Laboratory—cystitis, no pyelitis.

The author believes that the cause was due to a congenital defect in the urethra or an ulcer or tear in the valve of the urethra. The chief reasons for reporting this case are its rarity, long duration of stones and urine in the scrotal tissues without causing disturbance and lack of mention in text-books.

A professor at Columbia says that long legs are a sign of superior intelligence. Anyhow, the breed has special facilities for keeping out of trouble.—*Detroit Free Press*.

TOPICS IN BRIEF

(Literary Digest)

Does Congress contain a United States of America bloc?

The Senate, by placing an impost on radios, has put a tax on air. Now let the rest of us get together and demand that it include hot air.—*Philadelphia North American*.

The American ideal in politics is to do nothing yourself, and investigate everything the other fellow does.—*Columbia Record*.

They are putting the pain in campaign now.—*Scripps-Paine Service*.

The most influential post in the dry enforcement squad seems to be the post mortem.—*Associated Editors (Chicago)*.

Society Proceedings

COOK COUNTY

Chicago Medical Society

Regular Meeting, December 9, 1925

1. Dry Clinic. Discussion of a case of Ruptured Uterus with Numerous Complications—Emil Ries.

2. The Diagnosis and Treatment of Pelvic Infections—Henry Schmitz.

Discussion—Arthur H. Curtis and Carey Culbertson.

3. Hysterectomy or Radium in the Treatment of Uterine Fibromyomata—William C. Danforth.

Discussion—Channing W. Barrett and George de Tarnowsky.

Joint Meeting of the Chicago Medical Society and the Chicago Roentgen Society, Dec. 16, 1925

Exhibition of a case of Hemochromatosis in a Woman—James H. Hutton.

1. The Radiographic Examination of the Mastoids—Amedee Granger, New Orleans, La.

Discussion—Norval Pierce.

2. The Value of the Dental Radiograph in Determining Periapical Infection—Russell L. Hayden, Kansas City, Mo.

Discussion—C. F. B. Stowell, D. D. S.

3. The Roentgen Ray as a Remedy in Fibroid and Other Benign Gynecological Diseases—Mary E. Hanks.

Discussion—Sarah M. Hobson and Benj. H. Orndoff.

GREENE COUNTY

The regular annual meeting of the Greene County Medical Society was held at Roodhouse on Friday.

Dec. 11, 1925. The meeting was held in the parlor of the Christian Church, the meeting was called to order at 11:30 a. m., by the president, Dr. Wm. H. Garrison. Eleven members present and one visitor, Dr. J. W. Armstrong, pastor Roodhouse M. E. Church, had dinner at Hotel Roodhouse and a social hour enjoyed for which the society is under obligations to the physicians of Roodhouse. The meeting again convened in the parlor of the Christian Church at 1:30 p. m. Dr. A. R. Jarman read a carefully prepared paper on "Ovarian Hypo-function."

Dr. A. K. Baldwin read an instructive and interesting paper on "Corpus Luter." These papers were discussed freely by all members present. Much information and many interesting experiences were brought out by this discussion. After the discussion closed our visitor, Dr. J. W. Armstrong, pastor of the M. E. Church of Roodhouse, was invited to speak. Dr. Armstrong referred to the wonderful progress made by the medical profession in recent years, and to the great benefit accruing to society therefrom. The doctor is a close and accurate observer and gave us much encouragement. The society next proceeded to the election of officers for the year 1926, as follows: Dr. O. L. Edwards, president; Dr. F. H. Russell, vice president; Dr. W. H. Garrison, secretary-treasurer; Dr. Howard Burns, censor.

A rising vote of thanks was tendered our retiring secretary, Dr. W. F. Knox, for his long, faithful and efficient service as secretary of the society. Moved by Dr. N. J. Bucklin and seconded by Dr. H. W. Smith that the censors report in the matter of Dr. S. F. March be accepted. The motion carried. The censors selected Carrollton for our March meeting. On motion, meeting adjourned.

W. F. Knox, M. D., Secretary.

WILL-GRUNDY COUNTIES

Since the resumption of our meetings (weekly) in October they have been very well attended.

Our speakers include Dr. W. E. Walsh of Morris; Dr. Grant Houston of Joliet; Dr. P. S. Winner of Chicago; Dr. J. J. Moore of Chicago and Dr. W. J. Harrison of Joliet.

Our annual election was held Wednesday, Dec. 9, 1925, and the following officers selected for the year 1926: President, J. W. Krohn; vice president, F. C. Bowker of Morris; treasurer, Roy B. Leach of Joliet; secretary, G. H. Woodruff of Joliet; delegate, H. W. Woodruff of Joliet; alternate, A. J. Lennon of Joliet; board of censors, Mat. Bloomfield of Joliet, and H. M. Ferguson of Morris; medico-legal advisor, W. R. Fletcher of Joliet.

At the same meeting Dr. Fletcher, our medico-legal advisor, reported that an effort was being made to remove the war tax from the yearly Harrison Narcotic Tax.

A motion was passed that the secretary communicate with our two United States senators, our local congressman and the two congressmen at large, indicating our desire to have the War Tax removed from the

yearly Harrison Narcotic Tax; this bringing it down to the \$1.00 pre-war figure.

Respectfully,

G. H. WOODRUFF, Secretary.

Marriages

HARRY S. ARKIN, Chicago, to Miss Irene H. Kraus of New York, November 18.

VICTOR MACKAY DALY to Mrs. Anna Raymond, both of Pontiac, Ill., at St. Paul, September 16.

Personals

Dr. Henry A. Merkel, Wilmington, has been appointed physician to the Soldiers' Widows' Home, to succeed Dr. Charles J. Carlin.

Dr. Thomas G. McLin, formerly of Jacksonville, has been transferred to the U. S. Veterans' Hospital, Fort MacKenzie, Sheridan, Wyo., where he will be clinical director.

Prof. L. Koeppe of the University of Halle addressed the Chicago Ophthalmological Society, December 22, Hotel Sherman, on "The Importance of Einstein's Theory of Relativity and Gravitation for the Physiologic Color Perception of the Living Eye."

Dr. Alfred Lewy addressed the Chicago Laryngological and Otological Society, December 7, on "Specimens of Ragweed of the Chicago Area," and Dr. Austin A. Hayden on "Cervical Emphysema Following Tonsillectomy."

Dr. William E. Gallie, Toronto, addressed the Orthopedic Club, December 22, at the University Club on "Transplantation of Fibrous Tissue in Repair of Anatomic Defects." Dr. Joseph C. Bloodgood, Baltimore, will address the club, January 8, on "A Brief Review of the Salient Points in the Diagnosis and Treatment of Benign and Malignant Lesions of Bone from an Industrial Standpoint."

Dr. Frederick H. Falls, Iowa City, has accepted the appointment of professor and head of the department of obstetrics and gynecology at the University of Illinois College of Medicine, Chicago. Dr. Falls, who formerly was an instructor in that department at Illinois, has since 1921 been head of the department of obstetrics and gynecology at the State University of Iowa College of Medicine, Iowa City; he is a graduate of the University of Chicago and Rush

Medical College, and has a master's degree from the University of Illinois.

Dr. Isaac I. Abt announces his appointment as attending physician in diseases of children at St. Luke's Hospital.

News Notes

—The American Hospital of Chicago, at Irving Park Boulevard and Broadway, has broken ground for the erection of a four-story, fireproof addition.

—The Chicago Surgical Society met, December 4, at the Cook County Hospital following a dinner and symposium at the University Club on "Carcinoma of the Large Bowel," participated in by Drs. Vernon C. David, Carl B. Davis and Arthur Dean Bevan.

—There was a dinner at the Hamilton Club, December 16, in honor of Dr. Amedee Granger, New Orleans, and Dr. Russell L. Hayden, Kansas City, Mo., who addressed the Chicago Medical Society that evening on "Radiographic Examination of the Mastoids" and "The Value of the Dental Radiograph in Determining Periapical Infection," respectively.

—At the tenth annual meeting of the board of governors of the Institute of Medicine of Chicago, December 9, Dr. Anton J. Carlson, professor and chairman of the department of physiology, University of Chicago, was elected president of the Institute for 1926; Dr. Robert B. Preble, vice-president; Dr. George H. Coleman, secretary; Dr. John Favill, treasurer, and Dr. Ludvig Hektoen, chairman of the board.

—The medical history club, recently organized at the University of Illinois College of Medicine, was addressed by Mr. Christian Bay of the John Crerar Library, November 4, on "Observations of a Medical Librarian Abroad"; by Arthur H. Daniels, Ph.D., dean of the Graduate School, University of Illinois, December 2, on "The Philosophy of Spinoza," and by Dr. Morris Fishbein, December 16, on "Eclecticism." The next lecture will be by Dr. Basil C. H. Harvey of the University of Chicago, on "Vesalius."

—At a luncheon, December 5, at the University of Chicago, given by President Max Mason, Dr. William H. Mayo, Rochester, Minn., gave an address on "Chemistry in Medicine"; Arthur D. Little, D. Chem., Cambridge, formerly president of the American Chemical Society, on

"Chemistry in Industry," and Julius Stieglitz, Ph.D., head of the department of chemistry, University of Chicago, on "Chemistry in the University." Following luncheon, the guests were taken through Kent Chemical Laboratory, where each man engaged in research demonstrated his particular problem.

—The medical board of St. Anthony's Hospital, Rock Island, has passed a resolution, according to the *Rock Island Times*, opposing the administration of toxin-antitoxin free of charge to school children under the direction of school physicians; as a result, it is said, the plans of the school superintendent to have pupils immunized against diphtheria have been changed, and family physicians will do the work when requested by parents. The toxin-antitoxin which had been ordered from the state health department will be turned over for this purpose without charge.

—At the third annual meeting of the Chicago Regional Planning Association, December 2-3, Hotel Sherman, the Wednesday afternoon program was "Public Health," at which Senior Surgeon Claude C. Pierce, U. S. Public Health Service, presided and gave an address on "Co-ordinated Health Work in the Chicago Region." Among other speakers were Dr. Isaac D. Rawlings, state health officer; Dr. Cornelius A. Harper, state health officer of Wisconsin; Dr. William F. King, state health officer of Indiana; Dr. Herman N. Bundesen, city commissioner of health; Dr. William A. Evans, and Dr. Milton M. Portis.

—The board of regents of the University of Wisconsin announced, December 2, the resignation of Dr. Carl Hedblom, who has been professor of surgery in that institution since June 26, 1924. Dr. Hedblom has been appointed professor and head of the department of surgery at the University of Illinois College of Medicine, Chicago, and will take up his duties, February 1, 1926. Dr. Hedblom is a graduate of Colorado College (B. A.), Harvard University (M. D.), and the University of Minnesota (Ph.D.); he was an intern in the Massachusetts General Hospital, Boston; professor of surgery in the Harvard Medical Schools of China from 1913 to 1916; appointed head of the section on general thoracic surgery at the Mayo Foundation in 1919 and was assistant professor of surgery in the University of Minnesota.

—Sponsored by the Seventh District Illinois Federation of Women's Clubs and under the auspices of the Northwest Branch of the Chicago Medical Society and the Northwest Branch of the Chicago Dental Society, an All-Community Health Pageant was held, December 3-5, at the Logan Square Masonic Temple. Among the features of the pageant were free medical and dental examinations for children and adults, and a prize was given for the healthiest man and woman past 70 who lived on the northwest side. Among the speakers were Dr. Thomas Parran, Jr., U. S. Public Health Service, whose subject was "Cooperation"; Dr. Abraham Myerson, professor of neurology and neuropathology, Tufts College Medical School, Boston; Charles N. Johnson, D.D.S., formerly president of the American Dental Association; Dr. Claude C. Pierce, U. S. Public Health Service; Dr. Borden S. Veeder, St. Louis, and Dr. Morris Fishbein. The physicians and dentists were guests of the business men of the Northwest side at a dinner, Friday evening.

—The new Rawson Laboratories connected with Rush Medical College were dedicated with appropriate ceremonies, December 18. The building is five stories high, of steel construction, joined on one side with the Presbyterian Hospital and on the other with the Senn Memorial building. On the first floor are administrative offices and library built for more than 25,000 volumes; the second, third and fourth floors are for classrooms, examining rooms, reception rooms and special laboratories. Surgery occupies the entire fourth floor, and the Norman Bridge pathologic laboratories the fifth floor. The Central Free Dispensary, which last year treated more than 100,000 persons, will be in this building and the Senn Memorial building. There is a children's play room for mothers who, in seeking treatment, bring their children, and a play director in charge. There are small treatment rooms throughout the building, two operating rooms on the fourth floor for minor operations, and various small laboratories for medical research for advanced students. The laboratories have the latest improvements. The building generally is of the most modern type.

—Officers selected at Annual meeting of the Kankakee County Society were N. T. Stevens, Chebanse, president; S. W. Lane, Kankakee, vice-president; H. E. Delavergne, secre-

tary and treasurer, Kankakee; censor, three years, J. A. Guerton, Kankakee, censor one year, E. S. Hamilton, Kankakee; delegate, R. V. Thomas, Manteno; alternate, H. E. Delavergne, Kankakee.

—Dr. John W. H. Pollard, former health officer of Quincy, has been appointed health superintendent for the eleventh district of Illinois. The counties comprise Adams, Hancock, McDonough, Schuyler, Brown, Pike, and Calhoun. He will have headquarters in Quincy but will give up all private practice. Besides his work here as health officer he has had experience in the east and south in health work.

—Cook County Hospital has elaborate building plans under way to increase the capacity of the institution to 3,500 beds at a cost of \$2,500,000. The new structures are to include an 8-story children's building, a 7-story men's ward building, a new receiving building and an up-to-date morgue.

Deaths

WILLIAM L. ATHON, Marshall, Ill.; Cleveland University of Medicine and Surgery, 1882; aged 65; died in November.

CHRISTIAN MARTIN BERNTSEN, Chicago; Northwestern University Medical School, Chicago, 1908; member of the Illinois State Medical Society, aged 41; died November 28, of bronchopneumonia, following influenza.

ANTHONY DOYLE, New Canton, Ill.; American Medical College, St. Louis, 1887; aged 93; died, November 5.

ALMARIAN W. DYER, Butler, Ill.; Starling Medical College, Columbus, Ohio, 1883; aged 72; died, December 2, of carcinoma.

JULIUS W. FOLK, Joliet, Ill.; Chicago Medical College, 1869; Civil War veteran; aged 81; died, November 10, of pneumonia.

JOHN W. KNOX, Stewardson, Ill.; Medical College of Ohio, Cincinnati, 1873; served as postmaster, 1872-1885; formerly a druggist; aged 90; died, November 20.

JAMES O. McDOWELL, Summer, Ill.; Eclectic Medical Institute, Cincinnati, 1874; aged 82; died, November 28, at the Olney (Ill.) Sanatorium.

GEORGE W. SCHWARTZ, Summer Hill, Ill.; St. Louis Medical College, 1873; member of the Illinois State Medical Society; aged 78; died, suddenly in November, of cerebral hemorrhage.

LEWIS CASS TAYLOR, Springfield, Ill.; Bellevue Hospital Medical College, New York, 1875; a Fellow, A. M. A.; past president of the Illinois State Medical Society; secretary, state department of registration and education; formerly member of the state board of health; aged 71; died, December 14.



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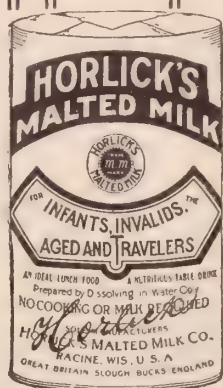
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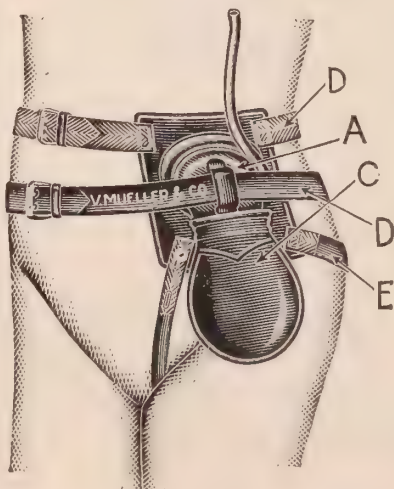
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ILLINOIS MEDICAL JOURNAL

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THE ILLINOIS STATE MEDICAL SOCIETY

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No. 2

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Send original articles and all communications relating to advertisements to Dr. Charles J. Whalen, Editor, 6221 Kenmore Avenue, Chicago.

Membership correspondence to Dr. Harold M. Camp, Monmouth, Ill.

Society proceedings and news items and changes in the mailing list to Dr. Henry G. Ohls, Managing Editor, 7026 Bosworth Avenue, Chicago.

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Editorial

ILLINOIS STATE MEDICAL SOCIETY ANNOUNCEMENT

The 76th Annual Meeting of the Illinois State Medical Society will be held in Champaign-Urbana May 18, 19 and 20, 1926.

In anticipation of one of the largest and best meetings in the history of the Society, the Committees on Arrangements have inaugurated extensive preparations for the meetings and entertainment of the Society.

The Committee on Hotel Accommodations urge that reservations for the meeting be made early, and direct with the management of the hotels. In case further information is found necessary the hotel committee is at the service of the membership. This committee, whose chairman is Dr. James S. Mason, 129 W. Elm St., Urbana, Ill., is in touch with a system that has control of a large number of desirable rooms that can be drawn upon in case the capacity of the hotels in the community is exhausted.

Below will be found a list of the principal hotels of the twin community of Champaign-Urbana:

HOTELS

Inman Hotel, Champaign, 150 Rooms (Headquarters for the Society).

Single without bath, \$1.75 and \$2.00; double, \$3.50.

Single with bath, \$2.50, \$3.00 and \$3.25; double, \$4.50, \$5.50 and \$6.00.

Urbana-Lincoln Hotel, Urbana, Ill., 100 Rooms.

Single without bath, \$1.75 and \$2.00; double, \$3.00 to \$3.50.

Single with bath, \$2.50 to \$3.50; double, \$4.00 to \$6.00.

Beardsley Hotel, Champaign, Ill., 100 Rooms.

Single without bath, \$1.50; double, \$2.50.

Single with bath, \$2.50; double, \$4.50.

Cots without bath, \$1.00.

Cots with bath, \$1.50.

Hamilton Hotel, Champaign, Ill., 65 Beds.

Single without bath, \$1.50; double, \$3.00.

Single with bath, \$2.50; double, \$4.00.

Cots without bath, \$1.00.

Cots with bath, \$1.50.

McClurg Hotel, Urbana, Ill., 25 Beds.

Single without bath, \$1.50; double, \$2.50.

Single with bath, \$2.50; double, \$3.50 and \$4.00.

(Signed) Chairman Hotel Committee.

SEND ON PAPERS FOR THE SURGICAL SECTION AT THE STATE MEETING

Surgeons wishing to read papers at the forthcoming meeting of the Illinois State Medical Society at Champaign May 18, 19 and 20th, 1926, kindly communicate with the secretary of the section on surgery, Everett P. Coleman, Canton, Illinois.

PHILIP H. KREUSCHER, Chairman,
30 N. Michigan Ave., Chicago.

SEND ON PAPERS FOR THE MEDICAL SECTION AT THE STATE MEETING

Doctors wishing to read papers in the section on Medicine at the forthcoming meeting of the Illinois State Medical Society at Champaign, May 18, 19, 20th, 1926, kindly communicate with the secretary, LeRoy H. Sloan, 1180 E. 63d St., Chicago.

B. U. McCLANAHAN, Chairman,
Galesburg, Ill.

INTER-STATE POST GRADUATE FOREIGN CLINIC ASSEMBLIES, 1926

The 1926 foreign clinic assemblies given under the direction of the Inter-State Post Graduate Assembly of North America will cover a territory including the chief clinic cities of Italy, Switzerland, Germany, Austria, Czechoslovakia, Holland and Belgium.

The physicians are going abroad as the result of invitations extended, through this Association, by the leading medical universities and institutions of the countries to be visited to the medical profession of North America.

The members of the party will sail from New York on April 28th, a few days after the meeting of the American Medical Association at Dallas, Texas, thus, giving the physicians of the party plenty of time to attend this meeting.

The large first-class cruising steamer, the

"Araguaya" of the Royal Mail Steam Packet Line has been chartered to take the physicians abroad. The party will land at Cherbourg and will go at once to Paris where the clinic assemblies start.

Dr. Carl Beck of Chicago, the general secretary for the foreign assemblies, is now in Europe completing the clinic arrangements for the assemblies. The clinic cities to be visited are as follows: Paris, Rome, Florence, Padua, Milan, Berne, Zurich, Munich, Vienna, Prague, Berlin, Amsterdam, The Hague, Utrecht, Leyden and Brussels. There will be extension assemblies held in all other principal medical centers of Europe following the main assemblies.

It is of interest to note that a large per cent of the distinguished teachers, who will instruct the assemblies, speak the English language. However, there will be a director chosen from the teaching staff in each of the clinics, who will be able to speak good English in case the chiefs do not. It will be the duty of this director to present the history cases and to answer questions as an interpreter. This is one of the reasons why Dr. Beck is now in Europe.

The assemblies are open to members of the profession who are in good standing in their State or Provincial Society with no restriction to territory. This invitation is understood to be extended to the entire medical profession of North America.

Admittance to the clinics and privileges of the tour will be protected by the issuing of an admittance ticket or card. This rule will be strictly enforced in order to protect the Association in its membership requirements, which is, that a physician must be in good standing in his State or Provincial Society. We will not be responsible or admit physicians to privileges unless they are members of the group.

The members of the party will be limited to a number that can be accommodated comfortably in both the clinics and hotels. After careful consideration and consultation with the transportation department and the foreign clinics, this number has been fixed at five hundred, which includes members of the physicians' families. Necessarily this will limit the number of physicians to around three hundred.

Physicians may return home on three separate sailings during the main assemblies. First, at the end of the visit to Italy and Switzerland by

way of Cherbourg; second, at the end of the visit to Holland from Rotterdam and third, at the end of the assembly in Brussels from the port of Antwerp.

It is necessary in order to hold space for the assemblies to send to the office of the Managing-Director, W. B. Peck, Freeport, Illinois, the sum of \$65.00 per person. If for any reason the applicant for space decides that he cannot attend the assemblies the money will be refunded immediately, if this demand is made as early as six weeks before sailing time. A booklet of information pertaining to the assemblies and prices for same may be secured free of charge by writing the Managing-Director's office.

Ladies Entertainment: Besides the extensive sight-seeing and travel features, arrangements are being made for a ladies' entertainment committee in each of the clinic cities. The committees will be composed of the wives of the clinicians and prominent citizens.

In offering the foreign clinic assemblies this Association has the hearty co-operation and assistance of the most distinguished teachers and clinicians in both North America and Europe. The organization in its endeavors hopes to combine with its success in post-graduate work a corresponding advancement in International good fellowship among the members of the medical profession of the different countries of the world.

The officers of the assemblies are:

Dr. Charles H. Mayo, Chief Executive and General Chairman, Rochester, Minnesota.

Dr. Carl Beck, General Secretary, Chicago, Illinois.

Dr. William B. Peck, Managing-Director, Freeport, Illinois.

Mr. Reeve Chipman, Manager of Transportation, Boston, Mass.

A second section of the assemblies for a limited number will be conducted during the summer months for those who are unable to take advantage of the April sailing. The members of the party will leave New York S. S. "Pittsburgh" on June 19th, return sailing August 13th from Antwerp S. S. "Zeeland."

BILL TO EXTEND MATERNITY ACT BEFORE CONGRESS. BRING PRESSURE AT ONCE ON YOUR CONGRESSMAN TO REJECT

Bill to extend maternity act for two years sprung January 13 in House of Representatives. Hearing to be rushed outrageously through Interstate and Foreign Commerce Committee of House tomorrow, January 14. Urge you to bring all possible pressure at once on your Congressman to reject.

WHY ILLINOIS SHOULD NOT COOPERATE WITH THE SHEPPARD-TOWNER ACT

Illinois should refuse cooperation with the Sheppard-Towner Maternity Act from patriotic, moral, hygienic, public welfare, and financial motives.

That is to say, Illinois should refuse to cooperate with the Sheppard-Towner Maternity Act BECAUSE

1. An insidious attack upon the government of the republic and a potent malefactor against the bodily health of the citizens.

2. Socialistic rather than democratic; a political switchback rather than a child preservative.

3. The care of the mother and the child is a local—even a personal—not a federal function.

4. The encroachment of the state upon the personal relations between the patient and his physician is a real national menace.

5. That it is the ultimate and worst form of paternalism tending to hinder medical progress and inhibiting individual initiative.

6. The Sheppard-Towner Act fails to give food, shelter, clothing, medicine or medical care for any mother or any child.

7. The Act does put upon the taxpayers and bounty list, herds of investigators, inspectors, record keepers, red-tape winders, and political heelers of every creed, sex and color.

8. Under the provision of the Sheppard-Towner Act the Federal government controls the expenditure of state appropriations.

9. Maternity education should be directed and supervised only by physicians.

10. A fecund breeder of more and higher taxes. The government "gifts" such as "Federal aid" are procurable for the people only by taxes from the people, and

11. The principle of federal state aid as a

means of financing public health work is an unsound financial policy.

12. Morally and legally, the proposition is indefensible. The Federal Government has no more right to collect money from New York, Illinois and Massachusetts and divide it among Montana, Wyoming and New Mexico than it has the right to take money from Jones and give it to Smith. The Federal government collects more money from a millionaire than from a laborer for the Federal government, but it has no more legal or moral right to make Illinois "divide up" with Texas or Alabama than it has the right to make Rockefeller "divide up" with Eugene V. Debs.

13. No such emergency exists as has been claimed for justification of the maternity act and there are no reliable statistics by which it can be proved that the United States stands seventeenth in the maternal death rate.

14. The means provided in the act will not afford an effective remedy for alleged existing conditions.

15. The distribution of federal funds to state health organizations will inevitably lead to the domination and dictation of state activities by the Children's Bureau.

16. The ability of the Children's Bureau to dictate and largely control the appointment of the head of the Children's Bureau in each state as well as all of the public health nurses, district superintendents and others, will result in the organization of a large body of salaried employes appointed and largely paid by a federal bureau, yet working under a state department of which they are to a large extent, independent. Such a condition will produce friction and confusion in public health work, and will make possible the development of a political machine under the control of the Children's Bureau.

17. The problem of reducing maternal and infant death rates is largely a medical problem. Whenever it pleases the Sheppard-Towner Maternity act authorities can work entirely under lay direction and independent of medical control.

18. With the exception of those activities which are clearly national in character, such as quarantine and the regulation of inter-state commerce and the like, public health work is a function of the state and local governments and should be paid for out of state and local funds

and directed by state and local officials. The furnishing of instruction or care to mothers or any other persons needing such instruction is just as much a function of local government as it is the providing of food and clothes for the destitute. The assumption and exercise of these functions by the Federal government is an invasion of the legitimate activities of the state.

19. Further, it is: A destroyer of individual rights and a developer of community supervision.

20. A conferrer of a million salaried jobs for political incumbents but not a dispenser of either clothing, shelter, food, medicine or medical care for any mother or any child.

21. A measure that will pay a retinue of politicians to disarrange the domesticity of a citizenry while the political wage is levied high-handedly out of the pockets of those whom the measure assumes to serve.

22. A masterpiece of false witness between politicians and the people, both present and in the generations yet to come.

23. An invader of private morality and an abaser of humanity to the level of animal and poultry bureaus.

24. A socialistic crime committed in the name of education.

25. A lever increasing the powers lodged now in the Department of Labor, as by this bill the Children's Bureau of that portfolio becomes the official arbiter of the vital domesticity of the United States. Per sequence, the temple of every woman's body becomes a political taxable and an asset to ward heelers. Upon a woman's fecundity or lack of it will hinge the bread and butter jobs of a bureaucratic regiment.

26. An inductor of the practice of obstetrics to the rule of thumb of political chicanery and machine manipulation.

27. A fundamental process towards the eventual establishment of a permanent lay dictation of the practice of medical and surgical science.

28. A tax bearing boomerang, rending the citizenry by community, state, county and federal levies for which will be received the octopus burden of a pack of strawbosses that will help no one and hurt many.

29. The principle of federal state aid as a

means of financing public health work is an unsound financial policy.

30. Talk and taxes—that's the Sheppard-Towner Act.

AMERICA IS BECOMING THE CENTER OF THE WORLD

A distinct surprise to American physicians is the exclusion of American doctors from clinics at the University of Berlin, Germany.

If this action is in the nature of reprisals by which the German University hopes to raise the boycott against German representatives at international scientific associations, then the German mind has gone wrong again. Berlin never did attract any great number of American doctors of medicine to its clinics. Vienna was always the clinical magnet, and still is as is also Prague. And Vienna has done all she could to maintain pre-war relations. The same may be said of Switzerland, another great center of medical science. These ideas are held by other nations than America.

While the subject is up for discussion let it be remembered that America is becoming the medical center of the world and is contributing as much to science as any other nation and far more than Germany. Medical hardship will obtain when the United States, forgetting the tenets of humanity under the dictates of prejudice closes the doors of her great medical clinics to earnest students from any country.

CLASS LEGISLATION A HINDRANCE TO MEDICAL EDUCATION

Class legislation where medical students are concerned has taken on new impetus at Yale University. It is connoted from the daily press that one of the features of the entrance requirements at Yale Medical School this autumn was that "no student should be accepted whose financial condition might require him to do outside work, interfering with his studies, in order to support himself through the Medical School."

If the danger thus created were to be restricted to Yale Medical school pessimism would be uncalled for. However if the experiment there is successful, other schools may be expected to follow suit. There will exist then a class of aristocrats dispensing the most democratic of all possessions,—health.

Canvass of famous physicians and of men who have contributed the most greatly to the health and public welfare of the nations would doubtless reveal that as much if not more of skilled service had come from men and women born without the proverbial golden spoon in their mouths.

While it is a desideratum that a student should be free from financial responsibility during student days, experience does not show that temporary poverty has an undesirable effect upon professional skill. Upon the health and strength of the overworked student, yes; in later life, this double burden may show.

According to the ruling at Yale a student without wealthy parents or borrowing capacities to the tune of from \$4,000 to \$10,000 must either go to some other school or else give over the idea of becoming a physician. He is, as it were, damned before he is born.

One thing is certain,—such a ruling will not be made in the fly-by night colleges, in the communities of charlatans and the quarries of quacks. Many a live man would be dead and in his grave had he depended upon medical care and surveillance only from those physicians who had independent means in their college days, or who got through medical school without assuming any portion of their own support.

If a man with the healing complex, those men from whom the best physicians are made—finds the doors of the best medical colleges closed to him because he is not independent financially, then indeed may the charge "Mercenary" be laid at the door of the practice of medicine. And let it be reiterated that quackery will take a man in under any system. He may pay as he enters or as he goes out or afterwards.

Some of the executives of medical education should consider seriously this problem before the justifiable stigma "Measured by Mammon" is pinned ineradicably upon the better institutions of the country.

AN ATTEMPT TO CORRECT TENDENCY TO STATE MEDICINE

A worthy down state physician writes to ask if the plan for co-operation with the Illinois State Federation of Woman's clubs, State Dental Society, State Department of Health, etc., is not an attempt to promote State Medicine? The

committee having this matter in charge hope to bring about the opposite state of affairs.

The plan of cooperation with the Illinois State Federation of Woman's Clubs, the Illinois State Dental Society, and the State Department of Health for the examination of the pre-school child was designed to hold back state medicine by putting into the hands of the component medical societies the functions which in certain other states and countries have tended to become official.

From the routine of instructions sent out by the Lay Educational Committee to district officers note the following:

1. That every member of the Federation is urged to accept the responsibility of getting one pre-school child to the *family* physician and dentist.

2. That the larger emphasis in the program is placed upon its educational aspects; that each woman is urged to look to her own household and to exert her influence upon families in her own station of life—not to make it her first thought to look after the other woman's child.

3. That all arrangements for charity and for field service are (a) made contingent upon the organization's performing its full duty in the educational phase of the matter; (b) taken completely out of the hands of the lay group and made a matter of arrangement between state and county medical and dental societies, using the departments of health as clearing houses for service.

This arrangement was considered by the Committee to be safe because of the fact that in many years' experience both the Committee and the Council reported no group of medical men who had refused charity service where warranted, but that they have resented the effort of lay organizations to dictate what warranted charity was.

The committee is not expecting to accomplish reformations of vast import through this campaign, but, frankly, if nothing more is done this first year than to impress upon the majority of lay women belonging to the Illinois State Federation of Woman's Clubs that fact that the pre-school child must be thoroughly examined by the *family* physician at least once a year, we shall feel that this is a long step in the direction of proper health education.

THE NEED OF MORE TRAINED PRACTITIONERS

Dr. Ochsner of Chicago in *Science*, December 25, 1925, says: "That the medical education of today is not as good as it was twenty-five years ago, and one fault lies that the personnels of our medical schools cannot teach medicine because they do not know medicine. "Who" he asks, "would want to learn to fly from an instructor who had never flown himself? The really efficient general practitioner needs to know a thousand and one things that make for efficiency, that give comfort and relief to his patient, which the non-medical teachers and specialists cannot possibly teach because they do not know these important things themselves."

Furthermore Dr. Ochsner believes that the American people are going to have medical attention when they need it, and if, by failing to keep up the supply of competent physicians the medical profession cannot furnish it the bars will be more readily let down to permit practice by the irregular cults.

"What we need," according to Dr. Ochsner, "is not more research workers to discover new facts but a few great medical minds who can take the great number of facts already known, separate the non-essential from the essential, arrange and classify them properly so that the later can be more easily gotten hold of by the student. What we need even more than this is a large number of medical teachers who can and will teach medical students the essentials of medicine in the shortest possible time without cluttering up their minds with a lot of non-essentials. . . ."

THE UPLIFTER

WELFARE MOVEMENT HAS BECOME ONE OF THE WORST PESTS IN AMERICA TODAY

The *Journal Lancet*, current issue, presents an abstract on the uplifter from the August number of the *American Mercury*, as follows:

THE UPLIFTER

A very frank and very readable article appears in the August number of the *American Mercury*, written by Bishop Charles Fiske, of the Methodist Church, entitled "Bringing in the Millennium," and the writer can do no better than to quote freely from the article in order to make his attitude toward the uplifter understood.

"Even a conservative, cautious ecclesiastic may feel bound in honor to record his misgivings—misgivings which many another parson frequently shares. He sees in all churches hundreds of his brethren 'seeking refuge from the difficulties of thought in the opportunities for action.' He sees scores of his friends, resigning an inspirational ministry to accept ecclesiastical positions as field secretaries or swivel-chair reformers. He sees churches abandoned to the unrestrained energy of social uplifters who are experts in politics of every type, from the common garden variety upward. He sees the slow and patient process of reforming the world through reforming individuals give way to the more popular process of compelling the nation and the world to be good by statutory enactment. He finds among Protestant ministers and their leading laymen a new type of spiritual enthusiasm—though it is as old as Puritanism, older, indeed, and seems new only because it has become as prevalent as an epidemic. He finds these fervent followers of the new righteousness determined to mold all men in one pattern and resolved, at any cost and with the expenditure of any amount of force, to make it impossible for other people to be sinners in their own way, while blissfully unaware that bigotry, religious hatred and pious cant may be worse sins than many of the offenses already listed in the statute-books."

"Take, for example, the present passion for social service. Organized, as the welfare movement is, on a thoroughly professional and commercialized basis, it has become one of the chief sins—and one of the worst pests—in America today. No one could possibly estimate the harm that has been done to all movements for social betterment by the paid uplifter. He is a general nuisance, and many a good cause has been ruined by his pernicious activity. Nowhere has the evil of such commercialized service been more serious than in the churches." * * * "These experts were hired and fired. Most of them had to make their own jobs (and in endeavoring to magnify their office they stuck busy fingers into other people's pies until the patience of the synods and conventions which engaged them was tried to the limit). Often they were parlor Socialists or doctrinaires who plunged their ecclesiastical organizations into unauthorized action in legislative halls and committed them to poorly digested programs of social, economic and industrial reform. Ecclesiastical counselors to state legislatures, amateur advisers in industrial relations and youthful critics of the present economic order were so numerous that one could not shake a stick at them collectively, much less hit them with it individually on the head. * * * They have hung like hornets about the heads of legislators until the better type of politician has retired to private life, and men of the baser sort have been pushed into the making of laws which they themselves do not obey and in whose real worth they have never had any faith"

The Bishop thinks that "the curse of commercialized service lies in the fact that most of us want to see necessary reforms enacted and necessary works of betterment performed; but paid experts who are obliged

to magnify their office or lose it have defeated the very purpose of social service—first, by attempting so many things that nothing is done well and many things are attempted which ought not to be done at all; second, by increasing overhead expense through conventions, conferences, local and general offices and the multiplication of organization, until overlapping in work is the rule rather than the exception; and lastly, by making such exorbitant financial demands for all these things that the charitably disposed are giving up in despair."

Not only the preacher but the doctor has fallen into this same trap, and he struggles like a caged animal, sometimes, to get out of it only to be confronted by another uplifter. The daily mail is full of circulars so full of unimportant things that the secretary of a busy man does not let him see one-half of it that comes into the office—most of it uninteresting circulars and appeals for money. It is well known, too, that both clergymen and doctors are easy prey to the uplifter, to the advertiser, and particularly to the man who has something to sell. Consequently, if a man wants to do clerical or professional work he has to put all this aside, and he finds it infinitely better for himself and for his congregation or his patients to devote himself to his occupation and not be led astray by all this ill-sorted, needless advertising.

Some of the social workers are so ignorant of what social service means that they are attempting to deprive individuals of their liberty on the ground that they are feeble-minded, rather than on the ground that they are "naughty" and ought to be spanked and sent to bed or to the workhouse. They create endless trouble in hospitals and other places, thrusting themselves in where other visitors would not dare to go—reminding us of the old saying, "fools rush in where angels fear to tread." If professional men are special victims of these pests, what must the politician be? He probably gives way just as often as the professional man because he thinks only of his political future, and he knows perfectly well that the resolutions that are handed to him were "framed by a select little gathering of earnest and ignorant ladies of leisure, urged thereto by some paid enthusiast, and that the appeals and instructions represent a few more or less faithful attendants at club meetings and not the thousands of members for whom they claim to speak." Sometimes, worse than all of these, the "mail bag and the social worker," the plague is the early morning telephone call which is used by some of these individuals without restraint, and without hesitancy, at any time that suits their convenience. Men and women are called from their beds to answer an insipid request to attend a certain meeting or attend a certain function.

ENORMOUS INCREASE IN CANCER MORBIDITY AND MORTALITY

Statistics compiled by the Metropolitan Life Insurance Company shows the following outstanding facts pertaining to cancer statistics:

1. Cancer was the fifth cause of death in nu-

merical importance, during the period 1911 to 1922, being outranked only by heart disease, tuberculosis, Bright's disease and pneumonia.

2. During the last two years of the period the relative rank of cancer as a cause of death was higher than in the prior years. In 1921, only heart disease and tuberculosis had higher deathrates.

3. If a boy or girl once reaches the age of ten there is more likelihood of dying ultimately from cancer than from tuberculosis, or pneumonia. Heart disease, chronic nephritis (Bright's disease) and cerebral hemorrhage (apoplexy) are the only diseases which are more likely than cancer ultimately to cause the death of a male who has once reached the age of ten years; and only heart disease and cerebral hemorrhage are more likely to cause the death of a female who has already lived ten years. Of 100 boys ten years old, the probability is that more than eight will eventually die of cancer. Of 100 girls ten years old more than eleven will eventually succumb to cancer.

4. One dollar in every eleven disbursed in death claims by the Metropolitan Life Insurance Company is paid out on account of cancer. Tuberculosis and heart disease are the only diseases responsible for greater disbursements than is cancer.

5. The mortality from cancer has increased in the industrial population of the United States and Canada during the twelve years studied. In making this statement, allowance has been made for more accurate reporting and certification of causes of death—factors which would in themselves tend to raise the apparent deathrate. It is believed that even after making further allowance for improvement in medical diagnosis, the conclusion would remain essentially the same. However, the actual increase in the cancer deathrate has been small—much smaller than might be inferred from analysis of published crude deathrates. It has been greater among males than among females.

6. The deathrate has not been increasing uniformly at the several age divisions in life. There was probably a slightly declining tendency among females between 35 and 55 years and a significantly upward trend beyond 55 years in each sex. The more advanced the age, the greater has been the rate of increase. It is thus evident that the gravity of the cancer situation is concentrated on the older ages of life, not only from the standpoint of maximum incidence, but from that of increasing mortality. The possible slight fall between 35 and 55 years of age may mean that there has been some response to the campaign of education for cancer prevention in this age range, where persons are more amenable to instruction, come more often under medical supervision in the course of treatment for minor, acute illness, and apply, to a greater extent than those of more advanced age, the lessons taught through the public press and by health organizations. The observed slight improvement would then perhaps be, in part, the result of saving or prolonging the lives of increasing numbers of

persons affected with tumors, through the medium of early surgical operation.

7. Although cancer is seldom regarded as an important disease in childhood and adolescence, a considerable number of deaths from this cause occur before age 25. More than 2 per cent of all the cancer deaths of these Industrial policyholders were of persons under 25 years. Practically one-third of all of the deaths from cancer of the brain, one-quarter of those from cancer of the bones, the kidneys and supra-renals, and one-eighth of the mortality from cancer of the lung and pleura occurred among policyholders under twenty-five years of age. The type of malignant growth known as sarcoma is responsible for most of the deaths of young children reported as due to cancer. In considering these figures it must be borne in mind that the insured population of the Industrial Department of the Metropolitan Life Insurance Company is richer in young persons than the general population.

8. Deaths from cancers of the stomach and liver, the female genitals, and of the peritoneum, intestines and rectum, together constitute over two-thirds of the mortality from cancer. For cancers of the stomach and liver, there is little difference in the deathrate of males and females. For cancers of the peritoneum, intestines and rectum, the deathrates among women are much higher than among men. The relatively high rate from these cancers, together with those of the female genital organs and of the breast, are the factors which make the female deathrate for cancers as a whole higher than that for males. Buccal cavity and skin cancers, especially the former, run much higher among men.

9. This relatively high mortality among females from cancers of the peritoneum, intestines and rectum conforms to what has been observed for certain other abdominal diseases. Intestinal tuberculosis and tuberculous peritonitis, contrary to other forms of tuberculous disease, also register higher mortality among women than men. We know of no satisfactory explanation for this. The deathrate of females is also higher than for males for a more heterogeneous group of intestinal conditions including intestinal adhesions, "chronic constipation," fecal fistula, intestinal gangrene, intestinal hemorrhage, intestinal paralysis, etc. This, again, suggests a relationship between the disease of the female sex organs and those of the intestinal tract.

10. The deathrate for cancer of the stomach and liver, for all color-sex-age classes combined, has shown no decided upward or downward tendency. In one color-sex group alone, colored males, was there an unmistakable rise.

11. Cancers of the pharynx and of the esophagus are rare among females; but growths of the liver and gall-bladder are much more frequent among females than among males.

12. The female genitals, next to the stomach and liver, are the most important seat of malignant disease. Among colored women, the deathrate for female genital growths is even higher than for the

stomach and liver. There was practically a stationary deathrate during the twelve-year period, although a definite rising tendency is in evidence for both white and colored women in the age-group 65 to 74 years. More than eleven-twelfths of this type of malignant growth are seated in the uterus among white women and about 97 per cent among colored women. The deathrate among colored women from uterine cancers is excessively high.

13. The upward trend of the deathrate for cancers of the intestinal tract has been more pronounced than for any other group of malignant growths, particularly among the whites of both sexes. Among colored females the only significant rising tendency shown in this group was at 55 to 64 years.

14. More than 60 per cent of the mortality from this group of cancers resulted from growths in the small intestine or in some part of the large intestine other than the rectum or anus. About 31 per cent of the deaths were due to rectal and anus growths while 6.5 per cent were from cancers in the mesentery or peritoneum.

15. Rectal and anal cancers exact a particularly heavy toll of life among negro women, in fact, they constitute the only instance in the entire group of malignant growths of the peritoneum, intestines and rectum in which the mortality among colored persons exceeds that of the whites. Further research is obviously indicated to determine whether colored women suffer more than white women from rectal and anal ulcers, abscesses, and other inflammatory processes. If so, do such conditions frequently develop into malignant growths?

16. Breast cancers cause 13.5 per cent of all deaths from cancer among white females; the rate runs higher among colored women than among the white. Its course has been upward for white women in one age group only: 55 to 64 years. For both white and colored combined, and at all ages combined, there was no material change in the course of the mortality from this cause.

17. Cancer of the buccal cavity was responsible for 8.9 per cent of all cancers among white males and 6.9 among colored males. Only 1 per cent of deaths from cancers among females was due to buccal cavity growths. The deathrates run higher among white than among colored men, but with women the situation is reversed.

At all ages combined no significant upward or downward trend in the deathrate was observed for any color-sex group. The rate declined among white males aged 75 and over and among colored males at 45 to 54; also among white females at 55 to 64. Most of the deaths result from growths of the tongue and jaw.

18. Cancer of the skin was responsible for 4.1 per cent of all cancers among white males; among colored males, for 2.1 per cent; among white females, 1.8 per cent, and among colored females, .9 per cent. The outstanding fact in the mortality statistics of cancer of the skin is its high deathrate

among white persons as compared with that among colored persons. The mortality among white men in this experience was $3\frac{1}{2}$ times that for colored men and the deathrate among white women was almost $2\frac{1}{2}$ times that for colored women. The very pronounced color difference suggests an important field for investigation.

19. Cancer of the bladder, the lung and pleura, and, more particularly, the larynx, register higher deathrates among males than among females. Cancers of the kidneys and supra-renals show no sex incidence.

20. Cancer is increasing strikingly, among men, in a number of organs or sites which are not now segregated for statistical study.

NO PROHIBITION AGAINST ISSUING PRESCRIPTIONS

(Aiton v. United States (U. S.), 3 Fed. R. (2d Series), 992)

The United States Circuit Court of Appeals, Ninth Circuit, in reversing a judgment of conviction of defendant Aiton and in doing it with instructions to sustain a demurrer to the indictment and quash the latter, says that it need consider only the one count of the indictment on which the conviction was had. That count charged that the defendant, who was a practicing physician and duly registered with the collector of internal revenue, did unlawfully issue and write and deliver a prescription to a named person for 56 grains of morphin sulphate, not in good faith for meeting the needs of said person and not to effect a cure of him in the course of professional practice only, said person being a habitual user of and addicted to the use of narcotic drugs, nor to treat said person then and there suffering from an incurable or chronic disease, in the course of his professional practice only, but, on the contrary, with the intent and purpose to dispense, distribute, barter and sell such narcotic drugs for the purpose of catering to and satisfying the cravings of said person for said drug. The indictment stated on its face that it was based on Section 1 of the Act of Dec. 17, 1914 (the Harrison Narcotic Act), but the government conceded that the reference should have been to Section 2. However, it would be as difficult to sustain the indictment under the latter section as under the former. Section 2 only prohibits the sale, barter, exchange, giving away, dispensing or distribution of drugs, except in certain cases not material here. There is no prohibition in that section or elsewhere in the act against issuing, writing or delivering prescriptions by a physician, regardless of the intent of the physician or the purpose for which the drugs are to be used.

It was to be inferred from the language of the indictment that it was based on the decisions in *United States v. Doremus*, 249 U. S. 86, 39 Sup. Ct. 214, and kindred cases, in which indictments were sustained by the supreme court. But it will be found

on examination that in every such case, except where a conspiracy was charged, the indictment charged a sale or other distribution of drugs, and that in the conspiracy cases the charge was a conspiracy to sell or distribute drugs, not a conspiracy to issue, write or deliver prescriptions. For these reasons the count of the indictment under consideration charged no crime, and the demurrer should have been sustained.—*J. A. M. A.*

Correspondence

PROTEST RE-APPROPRIATION FOR MATERNITY LAW—NIGHT TELEGRAM

Silvis, Illinois, January 26, 1926.

To the Editor: The enclosed copy of night telegram sent Senators Charles S. Deneen and William B. McKinley, also to Congressman John C. Allen, in response to your telegram of the 14th. I am likewise enclosing you a regular correspondence letter sent the same gentlemen under date of January 16.

The following is the night telegram:

Silvis, Illinois.

Interstate and foreign commerce committee Thursday the fourteenth rushed out same day it was introduced into House a bill extending Federal Aid Maternity Act for two years; why the hurry? why that hearing and if two years is all why the bill? Illinois State Medical Society opposed and asks your active support in opposition; letter in the mail; good wishes.

WILLIAM D. CHAPMAN,

Chairman of the Council,
Illinois State Medical Society.

Copy 3:

John C. Allen
William B. McKinley
Charles S. Deneen.

Copy of letter as per above:

Silvis, Ill., January 16, 1926.

Hon. Charles S. Deneen,
Senator from Illinois,
Senate Office Building,
Washington, D. C.

Dear Sir:

My to you night letter of yesterday, on the subject of a House "Maternity" Bill, was not sent because I approve of attempts at government by lobby. The lobby of the moment seems to me a serious mistake, but we participate somewhat because everybody's doing it.

Illinois is one of twelve states which are called upon to pay better than 95 per cent of the cost of all "Fed-

eral Aid" (fifty-fifty) enactments. The members of the medical profession are in position to give expert advice in maternity matters; they are the men who have managed it and have collected information of a practical sort which is not essentially sentimental or theoretical.

The vigorous opposition of the Illinois State Medical Society to the original Sheppard-Towner Maternity Bill was partly responsible, along with the other opposition, for its reduction to a five-year term enactment; in the face of the most powerful sentimental and bureaucratic lobby ever imposed upon our Congress. That opposition was based upon practical humanitarian and politico-economic reasons which can be demonstrated at some length. The opposition was not from selfish motives, but was a matter of Honest-to-God Americanism. Our group prospers in direct proportion with the people who make up our clientele.

We have felt it to be a quite general sentiment in Illinois that the five-year enactment could not possibly be made permanent by the present Congress. And so the information that a little two-year extension is all that is asked by the Bureau is being received with interest. The circumstance of that request being passed out of committee on the instant and with no opportunity for adequate hearing is regarded as significant.

I have asked Mr. John C. Allen, representative of the Fourteenth Illinois District, to supply me with a copy of the House Bill and shall presently be in better position to discuss its details.

In the meantime we can only assume that the Bureau's modest request is the result of a hopeless feeling that they might, possibly, be granted that much; and that the matter will presently appear in the Senate. Your active opposition is earnestly solicited by the Illinois State Medical Society.

With good wishes and with great respect, I am

Yours very truly,

W. D. CHAPMAN, M. D.,
Chairman of the Council,
Illinois State Medical Society.

WDC-BW

BERLIN WELCOMES AMERICAN PHYSICIANS

To the Editor: We wish to call your attention to an article appearing in the Journal of the American Medical Association, January 16, Department of Foreign News under the title, "Berlin Faculty decides against official welcome to American physicians," copied from a German Medical Journal dated December 11, 1925.

The reason given by the Faculty of the Berlin University for this action was on account of the exclusion of German physicians from taking part in International Medical Congresses.

There is no doubt that this was the attitude

taken by the Faculty of Berlin last fall, but many things have transpired to strengthen our International relations since that time. The condition at the present time is entirely different.

The first of this month we received assurance from both the German Government and the Faculty of Berlin that the members of the Inter-State Post Graduate Assemblies, who will visit Berlin, June 15, 16 and 17, will receive a most hearty welcome. These greetings were received following several months of discussion between the representatives of the German Government, the Faculty of the University and representatives of this Association, especially with Dr. Carl Beck, Secretary of the Foreign Assemblies of this organization, who is now in Europe completing the final clinic arrangements for the 1926 assemblies.

The position taken by this organization was: First, that the same spirit of equality and justice enjoyed by the profession of other countries in their relations with one another should be extended to those of the German speaking countries.

Second, that this Association is not affiliated with or responsible for the acts of other medical organizations, therefore, we cannot sign any documents or declarations pertaining to other medical bodies.

Following the publication of the article above mentioned, we cabled Professor Bier, the chairman of the Berlin clinic committee of this Association, to give us a statement so that we could speak authoritatively. The following is a copy of Professor Bier's answer:

Berlin, January 21, 1926.

"William Peck,
Freeport, Illinois.

Under the stated circumstances heartiest welcome. Letter follows. BIER."

In bringing about this understanding we believe we have advanced largely the spirit of International good fellowship in which this organization is deeply interested.

Very sincerely yours,

WILLIAM B. PECK,
Managing-Director.

Inter-State Post Graduate Assemblies.

ATTITUDE OF AMERICAN MEDICAL PROFESSION REGARDING BERLIN CLINICS

Freeport, Ill., January 26, 1926.

To the Editor:

In order that the medical profession of America may be set right upon the question of International relation regarding the Berlin clinics, we are enclosing you a copy of a letter that we have just received from Prof. William His of Berlin and ask you kindly to publish it in connection with the other information we furnished you.

With kindest regards and best wishes.

Very sincerely yours,

W. B. PECK.

Berlin, January 6, 1926.

Very Honored Sir Colleague:

I should like to add a personal communication to the official communication received.

You have observed that the answer to your letter has been long deferred. The reason, therefore, is in Berlin as was in Munich and Vienna, which still sustains the exclusion of German physicians from International Congresses, especially so the International Congress of Surgeons. There has been no public remonstrance raised against this from the American side. On this account conferences were required which is the cause of the delay of the answer.

Now the work can move forward with rapid expedition but it will be important for me to know before I send you a program, if the participants of the assembly will desire to limit themselves to visiting clinics of scientific institutions or, if they will have on this point more extensive interests. As for instance: public health, social medicine, tuberculosis and child protection and the like. A communication from you on this point would be very valuable to us in the preparatory stages of the work.

The list of members of the Faculty corrected I am enclosing you.

I shall be pleased to greet a large number of prominent American colleagues here and am

With distinguished Esteem,

(Signed)

His.

Prof. Wilhelm His.

PLURIGLANDULAR THERAPY

Chicago, January 26, 1926.

To the Editor: Regarding pluriglandular therapy there is a tremendous amount of noise made about this question and probably most of it comes from men who do not use endocrine therapy at all, except possibly some thyroid occasionally, and who are not so familiar with the subject of endocrinology as are some of the men who are seeking to correct.

It seems to me that the question of pluriglandular therapy is a ghost, fetish, red flag, or some such thing that starts more trouble and more arguments than its importance justifies. Some time in the dim past some "authority" it seems frowned on the use of more than one gland in the treatment of a patient. Since that time many writers have followed the dictum of this ancient authority without stopping to reason why.

There are many very good reasons for using more than one gland at the same time in the treatment of the same patient. By the same token there is no excuse for using all of the endocrines in every dose given expecting the body cells to select from such a hodge podge the gland which they need. It is well known, (I believe even our endocrine nihilists admit it), that some glands have overlapping zones of influence. By this I mean, for example, that the anterior lobe of the pituitary and the thyroid and adrenal cortex exert a stimulating influence on the osseous and genital system. Would it be criminal to use these three glands at the same time if one were unable to decide which one was most at fault?

Examples of the inter-relations of the endocrines are very numerous. The pituitary undergoes considerable hypertrophy after thyroidectomy. After removal of the pituitary, in the tadpole, the thyroid and interrenal bodies fail to function; but functional and structural restoration can be brought about by the use of pituitary substance, the anterior lobe having the most pronounced effect.

In cases of severe diabetes coming to autopsy, where it is found that the pancreatic changes are slight, the adrenal cortex shows considerable degeneration. If a considerable portion of the adrenal cortex is removed glycosuria develops even if the pancreas is intact.

The pancreas is unable to maintain a normal blood sugar in the presence of severe liver insufficiency as shown by animals from which the liver has been removed. The liver is unable to maintain a normal blood sugar level with a sugar free urine in the absence or considerable reduction of the pancreatic hormone insulin.

It is quite likely that the liver loses its detoxicating ability when the parathyroid hormone is absent.

More cases of non-toxic goiter develop at puberty than at any other age and the use of ovarion substance in their treatment is urged by such authorities as Bram of Philadelphia. More cases of myxedema occur about the menopause than at any other age. The cretin shows many disturbances in the anatomy and function of the genital system.

I think most men would admit that in a department of experimental medicine or in a charitable institution where the patients could be used for teaching purposes, uniglandular therapy is the method of choice for obtaining additional information, but in everyday practice where our business is to relieve and cure patients, the doctor should use every means at his command for that purpose. To prolong a patient's disability by using one gland at a time when pluriglandular therapy might hasten his recovery is certainly sacrificing the patient's interest to our quest for "scientific" information.

YOU AND YOUR BUS

You know the Model of your Car,
You know just what its powers are;
You treat it with a deal of care,
Nor tax it more than it will bear.
But as to Self—that's different—
Your mechanism may be bent,
Your carburetor gone to grass,
Your engine just a rusty mass;
Your wheels may wobble and your cogs
Be handed over to the dogs.
And you skip and skid and slide
Without a thought of things inside.
What fools, indeed, we mortals are,
To lavish care upon a car,
With ne'er a bit of time to see
About our own machinery!

—John Kendrick Bangs.

Doctor—"You have acute appendicitis."
Fair Patient—"Oh, Doctor—don't flatter me."

Original Articles

PROPHYLACTIC BLOOD TRANSFUSION AS A ROUTINE MEASURE IN POOR OPERATIVE RISKS.*

GEORGE GRAY WARD, M. D., F. A. C. S.

Chief Surgeon, Woman's Hospital, New York; Professor of
Obstetrics & Gynecology, Cornell University
Medical College.

NEW YORK CITY

Blood transfusion is today a familiar procedure in every hospital, thanks to the work of Crile, Moss, Linderman, Lewisohn, Unger, and many others, who have simplified and perfected the technic so that it is now a comparatively safe and most valuable therapeutic measure.

The procedure is also familiar to the laity due to the frequent exploitation by the daily press of such good news copy as the "heroism" displayed by a relative or friend in sacrificing their blood to save one dear to them.

But to some of the profession and to the lay mind certainly, blood transfusion is still regarded as a measure of resort in desperate cases only, such as severe anemias and profound post operative shock from hemorrhage.

I wish to call attention to the great value of blood transfusion as a prophylactic preparatory measure in patients who are to undergo any severe or prolonged operation, where shock or considerable loss of blood may be anticipated, and also in patients who are to have minor operations involving blood loss and who have a lowered resistance, due to anemia or other causes.

Gynecological patients more than any others are most likely to have an associated secondary anemia of varying degree, due, of course, to the menorrhagias or metrorrhagias so frequently present in uterine or adnexal disease. Thus in the Woman's Hospital in New York, we perhaps see a larger proportion of patients with anemia who have to undergo operation than is usual in a general hospital. The cases with fibroids, carcinoma uteri, idiopathic uterine bleeding, the incomplete abortions and ectopics are all most likely to have an associated secondary anemia of varying degree. Many such cases are dangerous operative risks, yet until recently it has been customary to operate upon such patients, often with an hemoglobin of 50 per cent or less, and a marked loss of erythrocytes, with an inevitable

higher mortality rate than is necessary, although a blood transfusion may be done after the operation as a last resort when the grave condition of the patient is realized. Indeed, I am under the impression that today such is the usual practice in many of our hospitals.

Furthermore, our conception of the amount of blood lost in the course of an operation is in general very vague. This has been recently pointed out by Gatch and Little¹ of Indianapolis in a study they have made of this subject.

Our idea as to the amount of blood a healthy individual can lose without marked inconvenience is based on our observation of blood donors. In our experience 500 c. c. to 750 c. c. is the average amount of blood that can be taken without symptoms, and that over that limit distressing signs begin to occur. The giving up of 500 c. c. of blood by an ordinarily robust individual certainly calls for no "heroism," and our internes are frequently glad to earn some extra money in this way.

Laboratory experiments confirm these observations as it has been shown that animals can lose 25 per cent by volume without bad effects. Gatch's and Little's observations approximate our own experience in this regard. Their method of determining the blood lost at operation was based on colorimetric measurements of the blood recovered by washing the gauze sponges used. Their results showed that the method was accurate within 5 per cent.

A pan-hysterectomy for fibroids showed a loss of 304 c. c., a radical breast amputation in a vascular case showed a loss of 710 c. c., a nephrectomy showed 816 c. c. It is easy to see that the loss of such amounts during operation in a patient with an hemoglobin of say 50 per cent and with less than 3,000,000 red cells, may seriously endanger the patient's life. Especially is this true when we consider that such a patient's resistance may be still further lowered by the added shock to the sympathetic system of a severe or prolonged abdominal operation. Likewise in extensive vaginal plastic operations, there is nearly always a continuous capillary oozing of blood, which amounts to a considerable loss in an operation requiring an hour or more for its completion, and which owing to its insidiousness, is frequently not fully appreciated by the operator.

Our experience at the Woman's Hospital in a

*Read before the Interstate Post Graduate Assembly at Milwaukee, October, 1924.

considerable number of cases shows us that 500 c. c. of blood as a prophylactic preparation for operation in cases of secondary anemia is sufficient in the majority of the patients to bring the blood condition up to safety limits. Occasionally a second, or even third transfusion may be necessary in very low blood states, but we find this unusual. Undoubtedly this is due to the stimulating effect on the blood making organs that a transfusion produces as evidenced by the progressive improvement in the blood state that continues for some time after the transfusion.

This fact is fortunate as it makes the obtaining of donors much less difficult, if not more than 500 c. c. are taken, and with a donor available there is no excuse for not bringing our patient to the operating room with her resistance at the best possible state in order to withstand the ordeal to be undergone with the maximum of safety.

All that is necessary then is the ability to perform the transfusion. Thanks to the work of Lewisohn anyone with the knowledge of the simple technic of an intravenous infusion can give a blood transfusion by the citrate method which is familiar to you all.

At the Woman's Hospital we use the direct method, as we believe its advantages make it well worth while, although formerly the citrate method was used. The technic we employ is that of Unger² which was proved very satisfactory in our hands. Our internes are all trained in the technic, and in the past two years no interne has graduated from the hospital who is not an expert in giving a direct transfusion, and in typing and matching the donor and recipient's blood.

I have recently reviewed the blood transfusions done at the Woman's Hospital during the past two years by the direct method and I have also had a study made of the reactions in this series by two Senior Cornell students (Souter and Duryea) during their course at the hospital, which will be shortly published.

In spite of the perfected technic and the more accurate method of typing, post-transfusion reactions occur in about 25 per cent of cases, but fortunately the danger of gross incompatibilities may be said to be eliminated, and the reactions observed are usually not of a severe type, and are not sufficient to counteract the great therapeutic advantage of the transfusion. Still we cannot feel

that the technic of blood transfusion is perfected until we can eliminate reactions in all cases. The cause of these reactions is still obscure and we cannot foretell when a reaction will or will not occur. As yet the problem has only been solved in its grosser aspects. The experimental work of Guthrie, Huck, and Pessel³ has shown that it is probably necessary to modify the accepted classifications of the blood types of Jansky and Moss as they have demonstrated five isoagglutinins and isoagglutinogens in human blood. It is probable that the skill and dexterity of the operator in making a speedy transference of blood is a factor of considerable importance.

Our method is to use the Moss classification and the hanging drop method in the typing, and in addition the donor and recipient's bloods are directly matched in all cases for at least thirty minutes. We regard this last step as of the utmost importance in checking up on the compatibility. We also consider it very necessary that the donor's blood state be checked up at the time of the transfusion as it has occasionally happened that the donor has had an unsuspected secondary anemia. This is especially so if a professional donor is being used, and will of course give a disappointing result. Many patients will be saved if every case is typed as a routine and a list of donors kept available for emergency use.

Our study seems to show that transfusions of more than 500 c. c. of blood were followed with a higher percentage of reactions than with the smaller amounts, and repeated transfusions increased the percentage of reactions. We do not find that a transfusion increases the blood pressure to any marked extent, and therefore do not hesitate to give a pre-operative blood transfusion in cases of internal hemorrhage such as in ectopics, as we do not fear further bleeding from increased pressure. We have also observed that at the end of forty-eight hours the highest percentage of increase in hemoglobin and red cells occurred in those patients who had had reactions.

It is our practice in cases of profound operative shock to immediately give an intravenous infusion of 250-300 c. c. 6 per cent gum acacia and 20 per cent glucose solution at a rate of 4 c. c. per minute at a temperature of 105° F. as advocated by Farrar⁴, which will at once raise the blood pressure and hold it for several hours, thus combating the state of shock until the blood transfusion can be given. This we find is a safe

and most valuable aid in an experience of many hundreds of such infusions.

We now have accurate records of 282 direct blood transfusions done on the gynecological service of the Woman's Hospital during the past twenty-six months, which record the temperature, blood pressure, pulse, and complete blood examination before, directly after, two hours after, and forty-eight hours after the transfusion, in addition to the general facts concerning donor and recipient. Prior to that time, the records did not give complete details, the methods were variable and the technic was not standardized, and the transfusion was in general used only as a resort in desperate cases. Of these 282 transfusions, more than 50 percent were pre-operative prophylactic transfusions, done to bring the patient to the operation with her maximum of resistance, and in addition a considerable number were done at the time of the operation or immediately after as a prophylactic measure and not because of the precarious condition of the patient. And I wish to emphasize the point that in many of these cases, the patients were *not* in a state of marked secondary anemia but showed a moderate loss only, as for example 65-70 per cent hemoglobin and 3,000,000-3,500,000 red cells. That this preparatory treatment was well worth while, is unquestionable, our mortality and morbidity being reduced and the beneficial results as shown by a much speedier and smoother convalescence, are acknowledged by the entire staff. I feel sure that the adoption of *routine* pre-operative blood transfusions in patients whose resistance has been lowered, or whose blood examination shows a reduction under 75 per cent, will reduce the operative mortality rate of any hospital as it has ours, which last year was 1.6 per cent for all cases.

One of the great benefits that has come out of the Hospital Standardization movement, which was first stimulated by Codman, is that today we give careful pre-operative study to our patients. The light of the Staff Conference beats too strongly on our after results to allow of the railroading of the patient to operation when no emergency exists. Thus with a better knowledge of our patient's condition we have no excuse for not giving her the advantage of this valuable prophylactic measure, should her resistance and blood state require it.

In conclusion, I would emphasize the following:

1. That blood transfusion should be employed as a *routine* prophylactic measure before operation much more frequently than is the present practice, especially in gynecological cases.

2. That every interne on graduation from a hospital should be competent to make the necessary blood typing and blood matching technic, and to perform a blood transfusion, preferably by the direct method. The blood examination is often necessary at night or on holidays when the laboratory force is not available. This implies definite instruction and the skill which comes with practice.

3. That 500 c. c. of blood is sufficient in a large proportion of cases for a prophylactic transfusion, and thus this amount is not sufficient to cause the donor distress.

4. That the amount of blood lost in many gynecological operations is not always appreciated by the operator and is a factor that should be considered where patients have a lowered blood state.

5. That while post-transfusion reactions occur in about 25 percent of cases they are usually not of a serious type provided that the donor's and recipient's blood have been directly matched, and that they do not appear to mitigate the benefits of the transfusion.

6. That if this procedure is more generally adopted, it will result in an appreciable improvement in our mortality and morbidity statistics.

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-48 East 52nd Street

THE INTERESTS OF THE MEDICAL PROFESSION NOW BEFORE OUR STATE LEGISLATURE.*

JOHN R. NEAL, M. D.

Chairman, Legislative Committee

SPRINGFIELD, ILL.

The interest of the medical profession now before our State Legislature is the subject assigned to me to present to this conference. Inasmuch as the secretaries of all the county societies re-

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ceive the printed matter that is sent out by the legislative committee, it is to be assumed that you are as cognizant with the present situation in the Illinois General Assembly as am I. However, if I may handle the subject in a little different manner I believe that I may at least bring a thought to you that is probably not being considered among medical men at this time.

With due apology to the author of the very excellent letter which appeared in the recent issue of the ILLINOIS MEDICAL JOURNAL from a president of a county society regarding a certain bill now before the legislature, I am going to read certain extracts from that letter and comment upon the same to illustrate what in my opinion is a great error among medical men throughout the State in reference to legislative matters. There are many fine thoughts contained in it also for in this letter we find the following words: "To my notion, we are now overgoverned. The multitude of laws only breeds contempt for law." This is an excellent statement, definite, constructive and brings out the thought intended. To this we heartily agree.

In another portion of the letter we find these words: "Are there not sufficient laws to keep us within the ethical code of morality, and agents to enforce them, without additional restraint being added and new rules made?"

Here again is a well stated query and brings out the writer's point forcibly. The writer is opposed to the bill to which his letter refers which is certainly his privilege and I believe that we should speak very plainly when we are opposed or when we approve bills pending before a legislature. But then, in the same letter we find the following extract: "Biologically, the the average politician would rank with Protozoa—the way I view them. I wonder what percentage of them in the Legislative halls of the State of Illinois could show a high school education—not more than ten per cent., I'll bet."

In this statement the writer has thrown down an antagonistic gauntlet to the members of the Legislature and it is extracts of this kind in various letters received by the Legislators and others interested in the political field that is very damaging to whatever efforts we may be expending in legislative matters.

Two years ago when the Shepherd-Towner bill was before the Senate and arguments pro and con were being advanced, a prominent sena-

tor arose and read a letter from a member of one of the medical societies in the State of Illinois maligning him for his apparent apathy in not taking a direct stand against a federal subsidy of the kind that the Shepherd-Towner bill represented. The letter was very pointed in its remarks and the senator, after reading the letter, voted "aye" for the bill inasmuch as he did not feel that he could let any group of men such as the medical men dictate to him in any such language. Now in all probability the senator was merely looking for an excuse to vote for the bill and it was not the letter that changed his attitude whatsoever but frequently when a legislator is sorely pressed by two opposing factions it is a soothing thing to him to be able to take offence at the actions of one of the group so that he will have some explanation for his action.

Another passage of the letter reads: "After all of that, the Learned Legislator thinks it necessary to hamper the only honest, hard working, sacrificing servant of the public with still another swivel chair, or golf playing supervisor." This, of course, is a statement which would offend any legislator, for him to be accused of furthering an official who either idled his time by playing golf or directing the traffic from a swivel chair.

I wish it to be understood that I am not taking any issue whatsoever with the writer of the letter in his thoughts, but that I am criticizing somewhat the rather pointed language that is used. I do not believe that it is our duty to mince words, to attempt to soothe the feelings of those legislators who promise to uphold certain standards and then vote diametrically opposite to their pledge. I believe that this sort of a man should be dealt with severely and specifically. A point of issue was the pledge of a certain legislator to vote for the Medical Practice Act in 1923. His vote did not appear on the original roll call or on the call of the absentees but, to my knowledge, he presented himself to the Clerk of the House fully an hour after and asked to be recorded as voting aye. Within the last two weeks when the Chiropractic bill was on second reading he promised your committee that he would vote against the bill instead of that he walked up to the Clerk and in a stage whisper asked him to record him as "aye" which was in favor of the bill. A member of your Legislative Committee that evening informed

him that he was a first class double crosser, that his word could never be relied upon, that his vote was not needed upon the Medical Practice Act inasmuch as he was the 91st to vote when only 77 were needed and that he had consistently promised physicians in his district to uphold decent standards but was just as consistently against them in Springfield and that as far as we are concerned we would consider it an honor hereafter if he would vote for all measures derogatory to the public health.

This point is merely brought out to show that it is not my idea of adopting a wishy-washy attitude and not being afraid to speak the conviction of my conscience but this method should be applied to individuals and not to legislators as a group.

In another passage in the letter above referred to we find: "Doctor, in your experience, how many politicians have you seen who have had any idea of what they were trying to do—say nothing about an ideal." This, I believe to be absolutely wrong. Some of the finest minds to be found in the State of Illinois are represented in our General Assembly. This is also true in our National Government and when the writer of the letter includes this passage, "It appears that the medical profession is about to be Russianized by ignorant, designing, wire pulling political propagandists working upon the more ignorant politician," I do not know as to whether you agree with me that in my opinion it would look like statements of this sort would tend to show that we should be Russianized. If we are to continue to find fault with every man in the political field and condemn in one breath the entire group of fine business spirited gentlemen who do seek political office and make the laws that govern the State and the Country our influence will be unavailing. It is a well recognized fact that there are low grade politicians as well as low grade doctors and lawyers as well as many other groups and for us to continue to hurl such invectives at those men who do represent the law making part of our government is, in my opinion, a grave error.

It is not at all necessary for us to agree with politicians but in disagreeing with them it is not necessary to assume that all politicians are wrong.

Recently a councilor of the Illinois State Medical Society wrote a letter to one of the legisla-

tors in his district who had voted wrong on the Chiropractic bill and I never read a better or more convincing argument why he should change the attitude and vote right on the third reading of the bill as was contained in that letter but the last three lines of the last paragraph of the letter was as follows: "And thus make it a dumping ground for all the riff-raff and incompetent quacks for this and adjoining states who are now unable to secure a license under our present laws." This, in my judgment, was more damaging than all the arguments that were advanced in the letter. I arrive at that conclusion from this viewpoint. The legislative body of Illinois and all States is made up of lay minds. They are not medical men as there are only two physicians in the 54th General Assembly. There is a severe doubt in many of their minds as to the exact attitude they should assume on drugless healer bills inasmuch as physicians speak in general terms as if all drugless healing means being a quack. In this I believe we all agree but the question is how are we to prove such an assertion to a legislator? The mere calling of the name does not in any way prove the charge. I find in my work that many members of the General Assembly do feel that the medical men are persecuting a class of honest, well meaning citizens who have chosen a competitive field to practice in. One drugless healer displayed a receipt from the tax collector of his township together with a letter showing that he was the first man in the township that had paid his taxes and congratulated him on his promptness. Another showed where his wife was superintendent of the Sunday school and that he himself taught a class in the Sunday school and had three children he was educating to become good citizens and that he was lending every effort to conduct himself as a gentleman. Of course, it is not hard for us to see that he is using such illustrations to further his own charlatan ideas but how is the legislatureman to know? Is it not better for us to assume the attitude that these men are unqualified and to show conclusively that a high standard is necessary for the public health rather than to refer to them as jail breakers, riff-raff, ruffians or any other term which might come to our minds? The Supreme Court of the State of Illinois in the following words in a decision in the case of the People v. Love said: "It is not the prov-

ince of the courts to extol or belittle chiropractic, osteopathy or medicine and surgery. They are all now established as useful professions, and, as time has progressed it has been thoroughly demonstrated that all of them have accomplished, and are daily accomplishing, the relief and cure of human ailments." Now, of course, we disagree with the learned court. We are quite positive that they know nothing about the results of Chiropractors but would it be a good policy for us to get out a printed circular telling the world how imbecilic we consider the Supreme Court of the State of Illinois? Does it not look as if this kind of a policy would be unavailing? The thought I am trying to convey is that I do not believe that by merely charging the drugless healer with being a quack helps our cause in the least and certainly does grave damage at times.

In the very same letter above quoted from we find the following: "Isn't it strange, doctor, how, when a few females are gathered together in the name of bridge, cross-word puzzle, or what not, a committee must be formed to promote pet legislation to wait upon the legislator and importune him to support their most important bill for the furthering of the welfare of the so-called "poorer classes," or to restrict the doctor in his work among them, to discuss social evils and morals in general of everyone from the President down?" Here again we have the same situation. Women are entering politics and must be reckoned with. To charge them with inability to comprehend matters necessary for the body politic is a very dangerous thing and while I admit that it is just such parties as referred to that start the idea for some social uplift society or for some welfare bill which when handled by certain aspiring individuals shapes itself in the form of a State or Federal subsidy, I really believe that the same thought could be stated in a more gentle and less vitriolic form. In closing I wish to apologize again to the physician who wrote the letter which the above extracts were taken from and again desire to call to attention that this is merely representative of a great many letters, many of them written in more severe language than in this one and it is an attitude in the political field which I do not believe is conducive of the best results.

DISCUSSION

Dr. W. F. Grinstead, Cairo: In the slave days, on a big plantation in the South, the manager of the plantation issued an order to the negroes that any one caught fighting would be punished. One day, while inspecting the plantation, he saw two young negroes fighting like mules kicking. He stopped them and said, "Boys, did you not understand my order that there was a severe punishment attached to fighting?" One replied, "Yes, boss, but that fellow called me a nigger." "Well, you are a nigger." "Yes, boss, I knows I am, but it was the way he said it."

It is not so much what the man said to the politician as reported by Dr. Neal as the way he said it.

Dr. C. S. Nelson, Springfield: I wish to back up Dr. Neal in what he said. I have come in contact with a great many physicians around the country and I have found out that you have to use tact. You cannot use insults. You have to educate them in a tactful way. Just to give you a little incident, two years ago the lamented Dr. Wheeler was running for state senator. He came to me one day and showed me a letter he received from a minister in Springfield asking his attitude toward osteopathy. The man went on to say that he had consulted a number of physicians without success and then went to an osteopath and was cured. Dr. Wheeler asked me to formulate a reply and I wrote a letter something like this: I complimented the osteopath on his success and said, "I hope, my dear sir, there is still a little good left in the medical profession." Then I went on to tell him what the medical profession has done and what they are now doing successfully along the line of social diseases. I gave the letter to Dr. Wheeler and the next day the minister came to him and apologized to him. Had I written a letter abusing the osteopath, what would have happened?

CASE OF OVARIAN PREGNANCY WITH HISTOLOGICAL FINDINGS

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CHICAGO

Ovarian pregnancy appears to have been first described by Mercerus in 1614. An important monograph on the subject was written by De Sanctis Meurice¹ in 1682 and was translated into several languages. Although cases were reported from time to time there was no evidence to distinguish them from tubal pregnancy, and several writers denied that a true ovarian pregnancy was possible. Lawson Tait, Bland-Sutton and Webster, among others, denied the possibility of ovarian pregnancy. The question was definitely settled by the pathological studies of Catherine Van Tussenbroeck, who in 1899² published an important histological study of a

case operated on by Kouwer³ in 1897; Thompson⁴ a few years later also demonstrated a case satisfactorily. Although the question of the occurrence of true ovarian pregnancy is now almost universally accepted there is still, however, some difference of opinion as to the mechanism by which it occurs; hence all cases fully

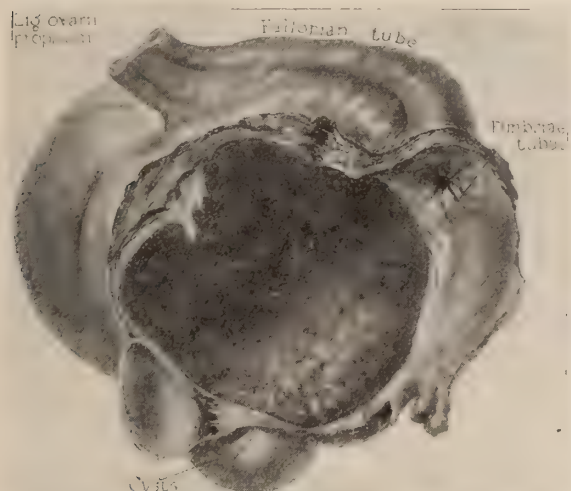


Fig. I. Sac of ovarian pregnancy drawn immediately after removal.

authenticated by complete histological findings are of very great value in elucidating the problems at issue.

The number of cases of ovarian pregnancy reported in the literature is comparatively small; and of these only a fraction can be accepted as histologically proved. Of course, it is to be understood that statistics of frequency are only of relative value, as many actual cases are either not observed or not reported. Many of the cases reported were accidental discoveries. Sutton⁵ found that 72 cases of ovarian pregnancy were reported in the literature from 1909 to 1922 of which he admits only 47 as fulfilling the necessary criteria. Boewing⁶ found that 100 cases had been reported up to 1923. In the recent literature I have found cases reported by Fuchs,⁷ Fallon,⁸ Krause,⁹ Remmelts,¹⁰ Hoehne,¹¹ Mertens,¹² Good and Richard,¹³ and Martin and McIntyre¹⁴.

In most of these reported cases the pregnancy ended early by rupture. In Boewing's case the fetus was 8 months old. The criteria of ovarian pregnancy were proved after operation in the thirteenth month of pregnancy. In Suvansa's case¹⁵ a full term living child was delivered. The findings were made at autopsy after death

of the mother from peritonitis. In this case the placenta was attached to the liver. Williams¹⁷ found that 11 out of 35 cases collected by him had gone to term.

Robinson's case¹⁶ was very similar to that now reported as there were small hemorrhagic cysts with a large blood cyst containing a cavity lined with an amniotic sac; but this is not by any means an unusual finding and appears to be rather the rule.

The following is the history of a case of ovarian pregnancy recently observed at the American Hospital, Chicago:

CASE REPORT

Personal History: Mrs. A. L., 32 years old. Menstruation began at fourteenth year; menses usually of four days duration and always accompanied by cramp-like pains. Married for past 14 years. One child died immediately after birth; no abortions. Husband is living and well. Last regular menses during first week of August, 1924. Had a profuse vaginal

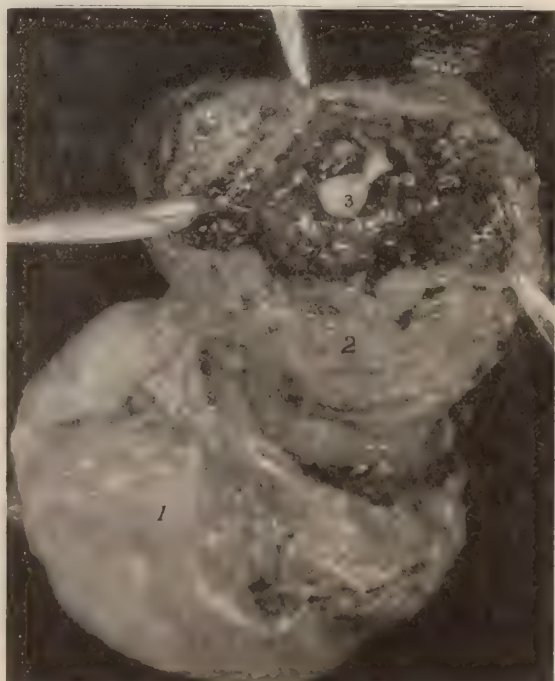


Fig. II. Ovarian pregnancy. 1. Wall of the cyst. 2. Haematoma. 3. Ovum resting within amniotic sac, surrounded by hematoma.

hemorrhage Nov. 18. Since then there have been several slighter hemorrhages and intermittent pains in the lower abdomen.

Examination: Slight bloody discharge from vagina. Uterus in left lateral flexion. Cystic tumor felt in region of Douglas' sac, about the size of a man's fist and fairly mobile.

Pre-Operative Diagnosis: Ovarian cyst.

Operation: Laparotomy disclosed a tumor, the size

of a coconut, having the appearance of an ovarian cyst. (See Figure I.) The tumor occupied the normal position of the right ovary. The tube was adherent to the cyst by fibrinous adhesions which were easily separated. There was no difference between the peritoneum of the tube and the serosa covering the cyst. The ampullar part of the tube seemed slightly hypertrophied. On removal and sectioning of the tumor it was found filled with an organized blood clot with a sac (amniotic

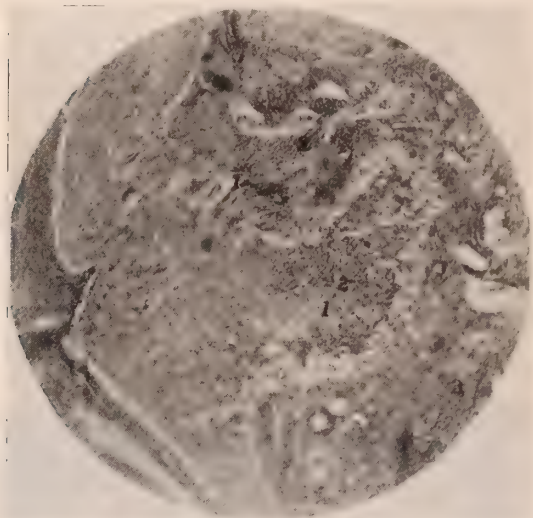


Fig. III. 1. Chorionic villi. 2. Langhans' cells. 3. Ovarian tissue.

sac) on the upper border of the hematoma. An embryo 8 mm. long was found in a cavity in the blood clot. There were two smaller cysts in the wall of the larger cyst. The whole cystic mass was rather thin for about two-thirds of its length and was thickened where the embryo was found at the abdominal end. The fimbriae of the tube were adherent to the sac. The tubo-ovarian ligament and the round ligament, slightly hypertrophic, could be easily distinguished (Figure 2).

On microscopic section the slightly hypertrophic ampullar end of the tube, close to the abdominal opening, was seen to have the muscular layer somewhat hypertrophied. The blood vessels were somewhat dilated and thickened, with some round-cell infiltration. Well epithelialized folds could be seen in the lumen of the tube. The serosa was covered with fibrin. *On close examination of serial sections no fetal elements could be detected in any layers of the tube.* Careful examinations of various portions of the hematoma were made. The sac, in its thinnest part attached to the tube, showed histologically organized fibrin with poorly staining cells, thin layers of elastic fibers (serosa), with abundance of red blood cells; no fetal elements were demonstrated.

Close to the two small cysts the sac showed fibrous connective ovarian tissue with well-marked vessels, colloidal mass and blood extravasations, but no fetal elements. The thickest part of the sac showed a large number of Langhan's cells with chorionic villi (Figure

3), which appeared partially without their syncytial layer and dipping into the ovarian tissue. There were dilated vessels filled with fetal elements, tropho-blasts and Langhan's cells (Figure 4 and 5).

Sections made from the upper part of the hematoma, which contained the embryo, showed amniotic epithelium with poorly staining granules, *i e.*, chorionic villi in the stage of hyalin degeneration; hyalin degenerated fibrin and red blood cells (Figure 6) also abounded.

The round ligament showed many blood and lymph vessels greatly dilated and with hyperthrophied walls and round-cell infiltration (Figure 7). There was no evidence of fetal cells.

Spiegelberg¹⁷ in 1878 defined the criteria which must be fulfilled in any case of true ovarian pregnancy. These conditions are:

- (a) The tube on the same side must be normal;
- (b) The fetal sac must occupy the usual place of the ovary;
- (c) This sac must be connected to the uterus by the utero-ovarian ligament;
- (d) There must be positive evidence of true ovarian tissue in the wall of the sac.

These criteria are usually accepted by writers on the subject of ovarian pregnancy, but certain modifications and additions have been sug-

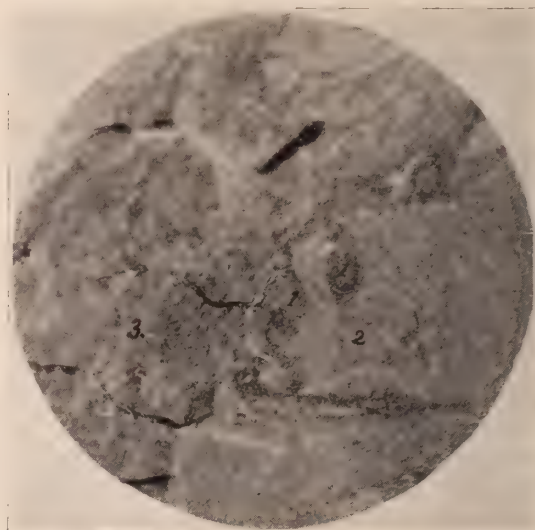


Fig. IV. 1. Chorionic villi in stages of hyalin degeneration. 2. Blood corpuscles with fibrin masses. 3. Organized fibrin mass.

gested. Williams¹⁸ modified the last condition by requiring that (e) ovarian tissue must be found at several different sites in the wall.

Norris¹⁹ requires (f) that "the tube should not only be intact, but microscopically free from any evidence of gestation." Jacobson²⁰ thinks that (g) the embryo should be visible in the gestation sac.

The fulfillment of these modifications is not possible in every case. The case here reported, however, satisfies all necessary requirements:

(a) The right tube is perfectly normal at both ends and sides (the slight proliferation is secondary; (See Figure 1).

(b) The fetal sac is situated in the normal place of the right ovary;

(c) The utero-ovarian ligament was intact and artificially cut during the removal of the mass; (See Figure 1).

(d) There is positive evidence of ovarian tissue in various parts of the sac (Figure 3).

(e) Sections of the thickened portion of the sac reveal chorionic villi, Langhan's cells penetrating into the ovarian tissue (Figure 3), while there was a marked tendency for the fetal elements to get into the maternal blood there was no evidence of decidual changes. (Figure 6).

(f) The tube is quite free from fetal tissue;

(g) There is evidence of an intact embryo

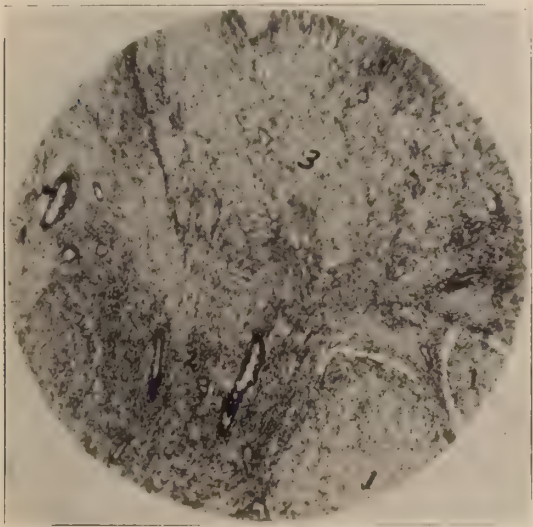


Fig. V. 1. Chorionic villi. 2. Infiltration with fetal elements. 3. Ovarian tissue.

7 m. m. long in the amniotic cavity (Figure 2, No. 3).

All the macroscopic and microscopic examinations in this case prove that it is one of hemorrhagic cyst combined with a true primary ovarian pregnancy.

DISCUSSION OF CASE

The first question that arises is that of the association of the large hemorrhagic cyst with the 3-weeks old embryo. This at once raises

the question of hemorrhagic cysts of the ovary in general, as well as another on which this depends, the occurrence of Muellerian tissue in the ovary.

Webster²¹ based objections to the occurrence of true ovarian pregnancy upon the phylogenetic ground that in the human female the fertilized ovum could only develop in Muellerian tissue. Sampson²² has shown that it is possible that bits

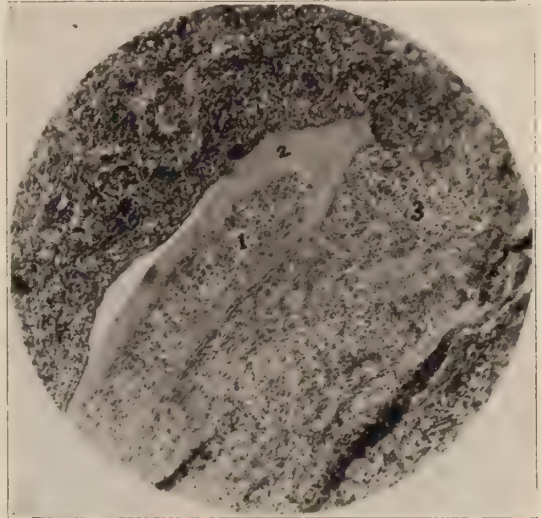


Fig. VI. 1. Trophoblast cells in a capillary vessel. 2. The lumen of the capillary vessel. 3. Ovarian tissue infiltrated with trophoblastic cells.

of endometrium or tubal mucosa may, during menstruation, become implanted in the peritoneum and upon the under and lateral surfaces of the ovary; and, as pointed out by Sutton,⁵ it is significant that nearly all cases of ovarian pregnancy have occurred in these locations rather than at the hilum. A recent study by Schwartz and Crossen²³ shows that the occurrence of endometrial tissue in the ovary is rather a frequent occurrence.

Jacobson²⁰ has shown experimentally that endometrial implants are capable of producing cystic ovary.

Endometrial implants in the ovary, as elsewhere, react to menstruation. They can, as shown by Sampson, invade the ovary and give rise to a hematoma, the tension of confined blood may cause a rupture and its escape into the peritoneal cavity giving rise to a cystic condition (hemorrhage cyst) in the ovary. It seems probable therefore that Muellerian tissue from the uterus or tubes can become implanted on the surface of the ovary and can be the orig-

inating factor in the formation of a hematoma there.

Such an endometrial ovarian implant would by its nature be a most favorable site for the development of a fertilized ovum if such could reach it. In fact, the presence of such endometrial highly vascular tissue may be taken as essential for the development of a fertilized ovum. Muellarian tissue besides being actually implanted on the ovary by accident during menstruation may of course occur in the ovary as a congenital "rest."

In normal pregnancy the union of spermatozoon and ovum is believed to occur either at

There are at least plausible bases for the occurrence of an ovarian pregnancy other than that it should essentially take place by fertilization of an ovum still remaining unexpelled in a ruptured Graffian follicle as so ably championed first by Van Tussenbroeck. Bryce Teacher and Kerr²⁴ were probably the first to definitely demonstrate that embedding of the ovum could occur outside a Graffian follicle. An ovum which had become fertilized and had escaped into any part of the abdominal cavity might become imbedded in an accidental superficial endometrial implant and would find it a suitable site for its specialized development. Sutton thinks that an ovum, primarily impregnated in the fallopian tube, may escape from the tube into a cavity preformed in the ovary, which would of course be really a secondary ovarian pregnancy. In the case reported by Fuchs⁷ a defect in the left tube had allowed external migration of the spermatozoa.

According to Sutton there are 9 authentic cases where pregnancy did not begin in a Graafian follicle.

We have no histological or other evidence in the present case to show that fertilization of the ovum occurred in a Graffian follicle and must content ourselves with the statement that the method in which this primary ovarian pregnancy originated is unknown. A large part of the ovary had probably undergone cystic degeneration before the ovum was implanted in it.

There has been some controversy concerning the formation of true decidua in the ovary. Ray²⁷ shows that a decidual reaction is not necessary for embedding of the ovum which can occur in practically unaltered endometrium, the decidual changes occurring after embedding. In almost all the recorded cases of ovarian pregnancy (as in the present case) there is no formation of a decidua in the ovary. The reaction to embedding is first manifested by enlargement of the blood vessels and this is probably another factor in the development of the hematoma.

In Hunter's²⁸ specimen, certain cells embedded in strands of fibrin at the outer boundary of the intervillous space were interpreted as the remnant of a true ovarian decidua which had been ploughed up by blood issuing from the intervillous space. The question of the occurrence of a true ovarian decidual reaction may, therefore, be considered as still sub-judice and the his-

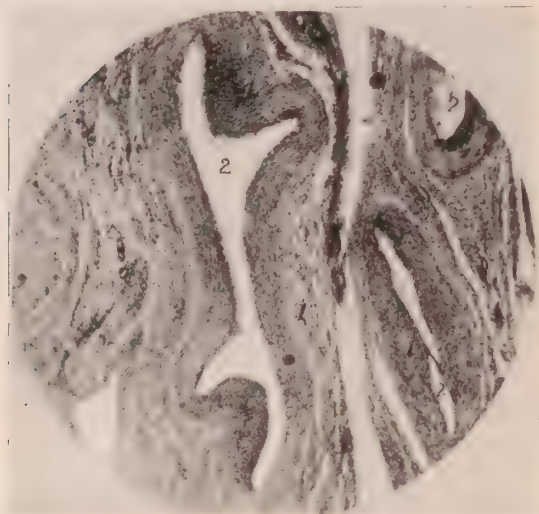


Figure VII. 1. Thickened blood vessel wall. 2. Lumen of blood vessel.

the fimbriated extremity of the tube or upon the surface of the ovary; in the ovarian pregnancy the spermatozoon usually meets the ovum while still in the Graafian follicle or else in the peritoneal cavity, the ovum then becoming implanted in the ovary.

That fertilization may take place while the ovum is still in the follicle is admitted by several writers. Leopold²⁵ has suggested that a centrally located follicle may rupture into one more superficially located, the ovum from the former being expelled but being fertilized in its original location by a spermatozoon which has gained access through the superficial follicle. Norris¹⁹ holds that the spermatozoon can find its way into a recently ruptured Graffian follicle and fertilize the ovum *in situ*. Hewetson and Lloyd²⁶ believe that the fertilized ovum, in seeking a site for development, can burrow its way into a deeper portion of the ovary.

tological sections submitted in this present case may be of further interest in the solving of this question.

Hunter's case is very similar in its histological aspects to the present one, except that in the latter no ovarian or fetal elements could be demonstrated in the thin parts of the sac although there were plenty in the thicker part.

The conditions in which the ovarian pregnancy occurred might, perhaps, be explained by supposing that an impregnated ovum reached a hemorrhagic cystic cavity due to an endometrial implant in the ovary and become embedded in this cavity. The vascular engorgement in the vicinity of the growing sac added to the size of the hematoma surrounding it. A large part of the ovarian tissue had probably become degenerated by the hemorrhage from the endometrial implant, before the embedding of the ovum, and this might explain the absence of ovarian tissue proper in part of the cystic sac. As suggested by Hewetson and Lloyd²⁶ the ovum would naturally by its erosive qualities seek the vascular endometrial tissue for embedding where it could develop. The organized hematoma and unruptured fetal sac also explain why no free blood was found in the peritoneal cavity.

The question as to whether the impregnated ovum reached the cystic cavity from without the ovary, or whether sperm passed into a Graafian follicle or to its mouth to fertilize the ovum, or that such fertilized ovum became enclosed in a blood clot forming at the opening of the follicle must remain undecided.

An ovarian pregnancy most usually ends in early rupture and death of the embryo from the massive hemorrhage. In nearly all cases the chorionic villi are found floating free in blood and this also occurred in the present case as seen in Figure 4.

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IDIOPATHIC ULCERATIVE COLITIS WITH SPECIAL REFERENCE TO ETIOLOGY AND TREATMENT*

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Ulceration of the colon may arise from many different causes. Direct causes from organisms within the colon may produce mild or severe grades of inflammation or ulceration. *Amoeba histolytica*, *Balantidium coli* and the dysentery bacilli represent such type. Metallic poisons acting as caustics, such as mercury and arsenic, occasionally produce such trouble. When it is considered that the colon itself is an organ of excretion, it is evident that the ulceration may be caused not only by the direct action of poison from the colonic contents but also from poisons being thrown out of the blood stream through the walls of the colon. Arsenic, as given in the various arsenical compounds, has caused irritation and ulceration. The toxins of disease may also be the cause of ulceration. Following infection in the gallbladder and biliary tract, ulceration is occasionally seen. The terminal stage of nephritis is in many cases accompanied by colonic ulceration. Milder cases of nephritis are sometimes complicated by this condition. So, in many cases of severe, acute infections, diarrhea is the result of colonic inflammation and ulceration, produced by the excretion through the walls of the colon of those toxins in the blood that are in excess of the amount the kidney can take care of.

There are some forms of ulceration which may be caused by both intrinsic and extrinsic irritation. Up to this time, tuberculosis has stood out as the chief example. There is one form of colonic ulceration which seems to be increasing in frequency, and which has been designated idiopathic ulcerative colitis, because no one has

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been able to prove its definite etiology. Many persons have attributed its cause to various organisms, but no one has produced sufficient experimental or clinical evidence to justify his claim. *Bacillus coli*, streptococci, bacilli of dysentery, amebas, and so forth, have each been suggested, but clinically the evidence was not conclusive and experimentally no uniform results could be obtained. In the last eight years, I have made efforts to find a bacterial cause of this form of colitis and failed. In common with many others, I finally became convinced, after using the tincture of iodine by mouth and obtaining complete remission of the disease in some cases, that the chief agent in the cause of this disease was a disturbance in the chemistry of the body. Two years ago Bargaen began the bacteriologic study of this disease. As a result of his work, we must believe that bacteria are the predominating, if not the entire, cause of this disease. Following the methods and advice of Rosenow, Bargaen has isolated from the mucous excreta and directly from the depths of rectal ulcers a large diplococcus in practically all cases seen during the last half of 1924 and the first five months of 1925. By injecting this organism intravenously into rabbits and dogs, he has produced ulcerative colitis in a number of these animals and has found the same organism in the ulcers.

REPORTS OF CASES SHOWING A DEFINITE RELATIONSHIP BETWEEN BARGEN'S DIPLOCOCCUS AND ULCERATIVE COLITIS

Case 1.—A woman, aged twenty-eight, was admitted December 30, 1924. Until four years before she had complained of constipation. Following the use of a laxative, diarrhea appeared and lasted two weeks. There were no complaints for one year and then diarrhea recurred for six weeks. She had a third very severe attack one year later which lasted several months, during which she lost 50 pounds. There were many ulcers in the mouth diagnosed as "specific with an acute condition superimposed." Since then she has never been normal. There have been from twelve to twenty stools daily with bleeding and marked weakness.

At the time of admission the hemoglobin was 53 per cent. and the erythrocytes numbered 3,440,000. The stool contained no parasites. The proctoscope showed marked rectal ulceration of the fissuring type in the horizontal axis of the bowel with several necrotic polyps. The mucous membrane between the ulcers was normal, and thrown into folds. The lumen was contracted to two-thirds its size. The appearance was not like that of tuberculosis. The anus was scarred and

distorted. The roentgenogram of the colon showed a lesion of the rectum and rectosigmoid, probably due to ulcerative colitis. Arthritis was starting in knees and elbows.

Local medication was applied to the rectum. The usual treatment by mouth and vaccine was given hypodermically. She did not make the usual improvement after six weeks' treatment. The tonsils were removed with no improvement in the arthritis or colitis. A tooth which had been devitalized eight months previous to her first attack of diarrhea was then removed, and the vaccine treatment was again started. The arthritis immediately cleared up and the recovery of the bowel has been complete. Bargaen cultured the periapical abscess and obtained his diplococci. These injected intravenously into animals produced ulcerative colitis.

Case 2.—A boy, aged fifteen years, was admitted because of slight attacks of diarrhea with occasional melena during the previous five years.

The stool showed no parasites. The proctoscope revealed granular proctosigmoiditis. Roentgenogram of the colon was negative. The tonsils were removed and culture of these produced Bargaen's diplococcus in large numbers.

Treatment consisted of rectal injections, the usual treatment by mouth and the vaccine filtrate made from Bargaen's diplococcus. Five months later the patient is entirely well.

Case 3.—A man, aged forty-five, was admitted in December, 1924. He was always constipated, but controlled the activity of the bowel by diet. During the three months before admission, he noticed some ribbon stools with mucus. His doctor dilated the anus without relief and since then a daily laxative has been required. In the week before admission he suffered from many crampy abdominal pains.

The stools showed no parasites, the proctoscope revealed marked ulceration throughout the rectum and sigmoid and the roentgenogram showed a lesion of the rectum and rectosigmoid with a large dilated colon, the cecum being displaced across the median line to the left.

The patient went home and took a very severe cold. This lighted up a protracted attack of bloody diarrhea, many of the stools consisting of pure blood. The patient returned in two months and continued to go downhill, despite all treatment. Finally ileostomy was performed after the method of Brown, both ends of the ileum being brought through the abdominal wall. Within three weeks after the operation, the distal portion of the ileum at the stoma was covered by granular inflammatory tissue similar to that seen in the rectum. From one of these granulations Bargaen secured a pure culture of his diplococcus.

Case 4.—A man, aged twenty, was admitted in October, 1925. During the previous nineteen months there had been three attacks of diarrhea, with watery stools containing blood and mucus. The first attack lasted three months, the second one month and the third began two weeks before admission. Each attack was preceded by a severe infection of the upper respiratory

tract. Amebas had been found during a previous attack; emetin then had had no effect on his diarrhea.

Examination of the stools for parasites was negative. Proctoscopic examination showed a diffuse granular condition of the rectal and sigmoidal mucosa. There were scattered, punched-out ulcers which looked somewhat like those produced by amebas.

Roentgenograms showed active ulcerative colitis throughout. One tooth showed periapical infection and there was a tonsillar abscess. Direct cultures from several granulations in the rectal mucosa gave a pure culture of Bargaen's diplococcus.

DISCUSSION

In Case 1, Bargaen's diplococcus was found in a focal area at the root of a tooth. Organisms cultured from this, injected intravenously into rabbits and dogs, produced ulcerative colitis in them, and the diplococcus was again found in the ulcers in the animals. The patient did not recover until this focal area had been removed.

In Case 2, Bargaen's diplococcus was found in the excised tonsil, and again recovery was delayed until after the elimination of the focal disease.

In Case 3, following the ileostomy, there developed in one end of the protruding ileum the same granular appearance as is seen in the rectum. By opening one of these granulations and obtaining a small drop of pus (containing a pure culture of his diplococcus) Bargaen proved that the granulations contained miliary abscesses.

In Case 4, a much more difficult technical problem was presented. Through the proctoscope, the rectal wall was cleaned, then painted with iodine, and several granulations were opened. They proved to be small abscesses containing the diplococci in pure culture. These, injected intravenously into animals, produced ulcerative colitis in them. The primary culture obtained from the small submucous abscesses of the patient's colon was subcultured many times and the seventh subculture, injected intravenously, still produced lesions in a rabbit's colon with death. From the mesenteric lymph nodes of this rabbit, a pure culture of the diplococcus was again recovered.

I feel that this evidence is sufficient to show that Bargaen's diplococcus is the definite cause of so-called idiopathic ulcerative colitis. The pathologic and proctoscopic pictures in this disease can now be understood in the light of these findings. The bacteria and their toxins have an elective affinity for the mucosa of the colon, at

first causing an inflammation which is shown by a congested, swollen, red, glistening mucous membrane. Later, miliary abscesses form in the mucosa, and give the granular appearance; these continue until they slough out, leaving either a shallow or deep ulcer, which may take different forms, depending on the swelling and the pressure on the rectal wall. When the infection is virulent, practically all of the mucous membrane is destroyed.

The course of the disease varies. It never comes in epidemics; in this series of 560 cases, there have been only four instances of two in the same family being affected. It is rare for one patient to know of a similar case in the same neighborhood. In the mild cases, only the rectum is affected at first, and this may be the case for several years, whereas in severe cases the entire colon may be affected within a few weeks. The rectum is the point of election for the disease to start. Only occasionally does it begin in the cecum or descending colon.

The disease is characterized by exacerbations, the activity in the beginning being replaced by entire quiescence, or by very slight diarrhea. During the quiescent period, the proctoscope may reveal the typical appearance. At times, constipation is present and daily laxatives are necessary. Reactivity may occur at any time without any known reason. It is very likely to recur if the patient takes cold or has an upper respiratory infection. Jarring or jolting occasionally induces a relapse. Some patients seem to have an idiosyncrasy for certain foods, but in general, food seems to play a small part in causing recurrence or in increasing the severity of an attack.

The relationship during the course of disease between ulcers of the stomach and duodenum and those of the colon is very interesting. The periods of activity and quiescence are the same, and the ulcer is present during the quiescent stage. The complications of the disease are the result of bacterial invasion of other organs or tissues. The commonest is arthritis affecting one or several joints. Perirectal infection comes next and is a very serious condition. When it occurs, there should be no temporizing. Immediate ileostomy is necessary to save the patient's life, as the tissues about the rectum lend themselves to rapid extension of the infection and

quick absorption of the toxins. Abscesses in other areas occasionally occur.

Subacute or acute perforation by the colonic ulcers may occur. If an acute perforation occurs, death is practically certain, even with immediate operation. More often, subacute perforation occurs, causing localized pain, with abdominal rigidity, a slightly higher rise in temperature and an increase in leukocytes. If this occurs, it is difficult to determine whether a complete perforation has taken place. It is safer to treat such a patient expectantly as, in the majority of cases, the perforation is sealed over by adjoining tissue. I have seen two such patients come to necropsy with the first perforations closed by the omentum, and other later perforations less than 1 cm. in diameter present without any leakage of the colonic contents. Among other complications, rectal stricture is very often seen, and erythema nodosum has been noted several times. Endocarditis has occurred twice in my series while the patients were under observation.

Positive blood cultures have been occasionally found, but, as they occurred before the finding of Bagen's diplococcus, they were not identified as other than streptococci.

Thrombosis, usually of the mesenteric veins, occurs rarely and is usually very serious. Carcinoma superimposed on the ulcers occurs in only a very small percentage of cases. Weakness is the most general complaint and is usually attributed by patients to the number of bowel movements. I believe it is due rather to toxemia. Necropsy shows marked fatty degeneration of many organs, the liver at time showing this to an extreme degree.

In about 12 per cent. of these cases amebas are found in the stools. I find them just as frequently in all examinations of the stool. Through the proctoscope, many ulcers of the amebic type can be recognized in association with the ulcers due to this disease. About 20 per cent. of this series of patients are classified as belonging to the low type; that is, the proctoscope can reach to about the upper limit of the inflammation and the roentgenogram is either negative or only suggestive of trouble in the recto-sigmoid. This shows the importance of a good proctoscopic examination, as in many cases the diagnosis can be made by it alone. In a very few cases, the proctoscopic examination shows

normal mucosa, but the roentgen ray reveals an area, usually in the cecum and ascending colon, more rarely in the sigmoid, with the characteristic deformities of ulcerative colitis.

CASES ILLUSTRATING THE DIFFICULTY IN DIAGNOSIS SOMETIMES ENCOUNTERED

Case 5.—A girl, aged twenty, was admitted, November, 1924. She had been taken, five months before, with headache, pleurisy pains, and abdominal pain starting in the left lower abdomen, radiating up and across under the ribs. The abdominal pain was quite severe, often doubling her up, but not severe enough to demand morphin. With the pain came loose bloody stools, from six to seven when she was up and from three to four when she was reclining. There was no history of fever, but when admitted to the hospital she was found to have a daily afternoon temperature of 100°.

Five examinations of the stools showed neither parasites nor tuberculosis bacilli. The proctoscopic examination revealed four small irregular ulcers in the sigmoid, the mucosa otherwise being normal. Roentgenologic examination of the chest was negative. That of the colon showed a lesion of the cecum and right half of colon, and dilatation of the sigmoid and descending colon.

Case 6.—A man, aged thirty-one, had had attacks of arthritis and abdominal pain with occasional slight diarrhea for three years. His condition had been diagnosed as "colitis" and he had received many treatments. He would omit treatment and return to work just as soon as he felt the least improvement.

He was very weak, with a hemoglobin of 63 per cent., but he had no fever. The clinical examination of his chest was negative, but the roentgen ray disclosed an old lesion at each apex. Two tests of the stool were negative for parasites, but the third showed one clump of acid-fast bacilli. On proctoscopic examination the lower rectum was clear, but the upper rectum and sigmoid showed many large and small irregular ulcers with a dirty grey base and overhanging irregular margins. The ulcers tended to encircle the bowel and there were several polyps. The roentgenologic examination of the colon showed an acute lesion throughout with most marked trouble in the cecum and ascending colon where the rapid emptying of the barium was seen. The fluoroscopic picture, however, made the roentgenologist report chronic ulcerative colitis.

DISCUSSION

In both of these cases there was marked prostration, fever in the first, but none in the second. The lower rectum, where chronic ulcerative colitis usually starts, was free in both and the roentgen ray showed maximal involvement in the cecum. Tuberculosis in the first case seemed the most likely diagnosis, but operation showed the condition to be ulcerative

colitis. The great extent of ulceration without fever in the second case is rather unusual, yet, with the characteristic rectal ulcers, the acid-fast bacilli in the stool, and the rapid emptying of the cecum, tuberculosis was the only possible diagnosis.

The symptoms of chronic ulcerative colitis follow logically the site and the extent of the lesion. With the inflammation in the rectum comes a diarrhea at first with soft stools only. When only the rectum or rectosigmoid is involved, the patient may pass one or two formed, or semi-formed stools, the rest of the discharge being chiefly or entirely pus, mucus and blood. As the inflammation progresses higher into the colon and marked congestion and ulceration occur, there comes a more watery stool containing blood. There is a marked hyperperistalsis from the stomach to the rectum. If the diarrhea causes many stools, spasm and cramping pain occur along the line of the colon, or over a spot of more marked ulceration. If the spell is of long duration, the constant loss of small amounts of blood produces an anemia which is hard to relieve because of the exhaustion of the blood-building tissues. Should an ulcer erode a large vessel, severe hemorrhage may occur. In either event, transfusion may be necessary. In the present series of 560 cases, the average percentage of hemoglobin was 64, the lowest was 17. When the inflammation reaches the right half of the colon, it invades the large absorptive area, and its toxins more readily reach the circulation, thus causing fever of the septic type, occasionally with daily chills. The poison also reaches the vital organs, causing degeneration, chiefly of the fatty type. When this is marked, the patient has a sallow, waxy appearance and flabby muscles; he is not able to stand much in an operative way, and medical treatment is often of no avail. He simply fades away with apparent inanition. When the toxemia is severe enough to cause fever, it produces loss of appetite, occasionally nausea and vomiting. The toxemia and loss of appetite result in loss of weight at times extreme. The average loss was 22 pounds, though I have seen several patients who had lost 90 pounds, and one who had lost 100 pounds.

TREATMENT

The treatment of the patient depends on the severity of the disease and the length of time

it has existed. Since the finding of Bargen's diplococcus, my treatment has changed and the eventual outcome is more hopeful. For a first attack or for an acute exacerbation of a chronic condition, rest in bed is usually advised, with a diet ranging from liquids to one with low residue and high protein. The treatment is started by giving, hypodermically, increasing doses of a vaccine-filtrate made from Bargen's diplococcus. Tincture of iodine, 10 to 15 drops, in a full glass of water is given by mouth, three times daily, and other medication is varied as needed with bismuth, kavolin, tannigen, calcium and parathyroid opium and so forth. The iodine in many cases has a marked immediate effect, making the patient feel much more comfortable. If the disease is below the descending colon, local treatments are given through the rectum. If the condition of the patient is not acute, the same procedure is followed, except that he is not put to bed. The vaccine treatment is kept up for about three months. In cases in which the entameba is found, a course of emetin hydrochlorid is given. If examination by roentgen ray shows that the diseased area extends above the descending colon, treatment through the rectum is of very little value. In all cases, all focal areas of disease are removed; tonsils and devitalized teeth are removed as soon as possible after treatment is begun.

In some cases, either the virulence of the disease or the lack of the patient's resistance makes the condition progressive, regardless of any form of treatment. In such cases ileostomy by the method of Brown is advised. The operation is thus attended with great risk, as only the very worst cases and those in which there is no resistance to the disease are sent to the surgeon. In many of these cases, the overwhelming character of the toxin has already caused marked fatty degeneration of vital organs which are not able to stand the added strain of operation. The patients who survive the immediate effects of operation may be divided into two groups. Those whose vital organs are not seriously affected make a good recovery, usually within a short time. In a few, excessive peristalsis of the small intestine continues, causing irritation of the skin about the stoma and necessitating frequent changes of dressing, which makes the economic aspect serious to some patients. The second group is made up of those whose vital organs

have been seriously damaged. Some of these die within from one to six months from inanition, while others become more or less chronic invalids.

The vaccine treatment has been carried out in ninety-three cases. In six the disease was so acute as to demand operation; ten patients have been brought to remission with no clinical, roentgenologic, or proctoscopic evidence of activity; twenty-six are clinically well, but have not presented themselves for laboratory tests; twenty-two are improved or still under treatment, seven are not improved, and twenty-eight have been lost track of.

This method of treatment has brought about a larger percentage of remissions than any I have yet used. I am hoping that within the next few months a serum will be ready to use in the acute phases of the disease. If this comes up to expectations, the treatment will be modified accordingly and, to a large extent, the surgical procedures will be eliminated.

CONCLUSIONS

1. The diplococcus found by Bargaen is the cause of idiopathic ulcerative colitis.
2. By the use of a vaccine-filtrate of this diplococcus, supplemented with iodine by mouth, a higher percentage of "cure" (remission) has been obtained than by any other method.

ACUTE LYMPHATIC LEUKEMIA: RELATION TO MINOR SURGICAL PROCEDURES:

REPORT OF A CASE*

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Acute lymphatic leukemia is a disease characterized by an enlargement of the lymph glands and spleen, septic temperature, ulcerations of the gums, mouth and tonsils, with occasionally bleeding from the skin, intestines, kidney and conjunctiva, and a characteristic blood picture. Naegeli observed that even in lymphatic leukemia the glands are not always enlarged.

The ulcerative stomatitis is the result of the breaking down of the lymphomas. These gan-

grenous processes which spread very rapidly, may also be the starting point of secondary septic infections, such as Vincent's angina, etc. In many cases a subleukemia or even an aleukemia may be present; leukocytosis appearing shortly before death.

The differential examination of the blood usually clinches the diagnosis. This condition depends not on the number of the leukocytes, but on the form. It is evident that only a very marked increase in the number of leukocytes or the predominance of certain forms of leukocytes, such as 80 to 90 per cent lymphocytes, enables one to make a diagnosis of acute lymphatic leukemia.

Acute leukemia has a striking resemblance to septic conditions, though from our present knowledge it does not belong to the known acute infectious diseases. It does, however, belong to that disease where the primary factor is in the hemopoietic system. At any event it is more than questionable whether septic infection plays an important role in the clinical picture of acute leukemia.

The acute type of leukemia presents a stormy onset, the course is rapid, usually terminating fatally in a few weeks or months. It may be doubted if any truly acute case lasts over six months. Instances of longer duration raise the question whether in these a chronic leukemia existing for some time without symptoms may not suddenly have developed an acute exacerbation. This, however, is not an infrequent occurrence.

The great majority of acute leukemias¹ occur in the early years of life, children and young people forming the greater bulk of these cases. In children, at times, there is a history of onset following the course of a long standing acute infection.

Recently my attention has been drawn to the fact that many cases of leukemia are precipitated by minor surgical procedures such as 1. extraction of teeth, 2. opening up of abscesses, furuncles and carbuncles, 3. minor accidents such as falls, sprains and the less severe fractures. I have in mind five or six cases that were precipitated following the extraction of teeth, with a resulting fatal ending in a few weeks. These cases evidently were of the chronic leukemia type, running a very low grade course,

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which suddenly assumed the *acute type*, following the extraction of the teeth.

The above facts are of great importance to the internist, and he should be on careful watch that none of these cases land in the hands of the dentist. In suspicious cases, where a blood dyscrasia is possible, thorough blood work should be done before the case is given to the dental surgeon for therapy.

Most dentists are not aware of the danger of extracting teeth in these cases, and usually proceed to remove six to ten teeth at one sitting, claiming that the looseness of the teeth and the ulcerations of the gums and mouth are an absolute indication for the removal of these teeth. They are more than surprised to hear later that their patient succumbed within a few weeks from acute leukemia, and that the extraction of the teeth evidently precipitated the condition to that of a very acute process.

One must remember that the ulcerations of the gums, mouth and tonsils in acute leukemia are due to a breaking down of the granulomas, which is a part of the general picture, and are not due to local manifestations such as pyorrhea alveolaris, etc. These facts must be foremost in our mind before any oral hygienic measures are instituted.

The removal of teeth in these patients is usually too much of a strain and seems to lower their resistance, so that a chronic low grade type of leukemia is immediately transformed into an acute affair. It is far better to employ prophylactic measures, and scale one tooth at a time, than to extract.

Case 1.—D. R., male, married, Irish, aged 61, a motorman by occupation, was referred to me by Dr. Joseph C. Beck, complaining of progressive weakness with loss of strength for one month following an extraction of teeth. He also complained of sore throat, shortness of breath, nocturia and cramp-like pain in both thighs. He said he had been coughing off and on for about a month and that he coughed up one-half glass of blood. A few days before his attack of sore throat, he went to a dentist who extracted seven teeth at one sitting under local anesthesia. He states that since his extraction of teeth he is so weak that he is unable to do any work and that he is especially dizzy on arising. His appetite is poor. No loss of weight.

Previous illnesses: Mumps at the age of seven; whooping cough at eight, typhoid fever at 30. Family history is negative. Personal history—alcohol and tobacco in moderation. He entered the hospital on October 13, 1924. Physical examination revealed a well developed, well nourished adult male who did not ap-

pear to be acutely ill, but who had a marked pallor of the skin. The essential findings were as follows: Temperature 102.8F., pulse 102, respiration 22. He was markedly dyspneic and was very easily fatigued. He was very obese, weighing over 220 pounds. Marked pallor of face, lips and conjunctiva. Fetor oris. Marked injection of pharynx with a dirty grey ulceration over the anterior portion of the tongue, mucosa of mouth and tonsils. Gums bled easily. Marked pyorrhea alveolaris with recent signs of extraction of some of the upper and lower teeth, with several discharging sinuses. Speech was somewhat thick in quality. Neck revealed pulsations of the vessels, but no adenopathy. No axillary or inguinal glands. Lungs negative. Heart, no enlargement; a fine systolic apical murmur. Abdomen was protruberant, with some herniation of the umbilicus. No spleen. Liver was palpable two fingers below the costal arch. Lower extremities showed slight varicosities of the veins. Smears from the tongue, mouth and around the roots of the teeth revealed Vincent's angina (spirochetes and fusiform bacilli). No jaundice.

Laboratory Work: Urine showed at times a trace of albumin with granular casts and pus. No red blood cells or bile. Blood Wassermann negative. Blood count (10-14-24) Hb 45, Tallqvist R. B. C. 2,140,000; W. B. C. 17,800. Color index 1+. The differential showed 90 per cent. large mononuclears, 7 per cent. small mononuclears, 3 per cent. myelocytes and no polymorphonuclear leukocytes. On the 16th of the month the R. B. C. dropped to 1,960,000. There were a few nucleated red cells, with poikilocytosis and anisocytosis.

Discussion: A diagnosis of acute lymphatic leukemia was made from a history of temperature, marked weakness, angina (mouth), ulcerative stomatitis, ulcerations of the gums, hemorrhage from the mouth and a typical blood picture which showed a differential of 97 per cent. lymphocytes with no leukocytes whatsoever. There is no question in my mind that this patient must have been suffering for some time with a chronic low grade type of leukemia, and that this condition was precipitated to that of an acute affair by the extraction of teeth.

Course of the Disease—Therapy: The ordinary therapeutic measures were instituted such as blood transfusions, arsenic, neosalvarsan and x-ray therapy. On the 16th of the month the patient received 530 c. c of whole blood. The blood count the next day was Hb 50; R. B. C. 2,280,000; W. B. C. 25,350; differential poly 3; S. L. 22; L. L. 74 and 1 T. On the 20th; the blood count was Hb 50; R. B. C. 2,110,000; W. B. C. 22,600; with a differential of S. M. 16; L. M. 77; T. 4 and poly 3.

On the 22nd day of the month, the white count jumped to 28,900. October 25, patient was delirious and had a severe hemorrhage from the throat, gums and rectum. He was quite dyspneic. This occurred again on the 27th. The blood count on October 24 showed the following: Hb 50; R. B. C. 2,490,000; W. B. C. 27,000; differential poly 2; S. M. 24; L. M. 73; T 1 with many nucleated reds. October 26 the

patient developed a hypostatic pneumonia, with a temperature of 103.6 F., respiration 40, with many moist rales throughout both lungs. His white count jumped to 37,600. He died two days later. His temperature during his sixteen days of illness in the hospital varied between 100 and 103.6 F. His pulse was always rapid.

CONCLUSIONS

1. A report of a case of acute lymphatic leukemia which was evidently precipitated by extraction of teeth.

2. The secondary infection of the mouth and tongue by Vincent's organism (spirochetes and fusiform bacilli).

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THE MANAGEMENT OF PEPTIC ULCER, GASTRIC AND DUODENAL*

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There seems to be little left to be said of gastric and duodenal ulcer that can not be found in most of our modern text-books. However, the more one studies and reads our current medical literature, the more one becomes confused as to what is the best procedure to follow in the treatment. These problems of treatment and the fact that this condition is so frequently unrecognized, particularly when it runs an atypical course, has prompted me to prepare this paper.

The old question of medical or surgical treatment seems to be more or less regulated at the present time. It is generally agreed that the treatment of uncomplicated early cases should first be medical, but those that resist medical treatment and have had several recurrent attacks, as well as those with hemorrhage, obstruction and retention, should be treated surgically.

Dever states, "In the last analysis the chronic indurated callous peptic ulcer belongs to the domain of the surgeon. Prolonged medical treatment of this type of ulcer is what I would term pussy-footing, in other words it is courting

disaster in the shape of hemorrhage, perforation and, in a certain percentage of cases, carcinoma." As to recognition, it is very often found that the symptoms are indefinite: In one series of 160 cases, only 123 had characteristic symptoms; hunger pain was not present in 20 of 146 cases. Gall bladder trouble is generally suspected in these cases.

During 1923 at the Mayo Clinic, they observed 280 cases of chronic gastric ulcer, as compared with 1440 cases of duodenal ulcer; the ratio in this series is about one to five. In another large series, the ratio was about one to four. Gastric ulcers are more apt to cause hemorrhage than duodenal ulcers and are more subject to malignant degeneration. There are no cytologic changes in the duodenal tubules which suggest that carcinoma develops in them. In a series of 425 cases at the Mayo clinic, no carcinomatous duodenal ulcers were found; gastric ulcers are frequently associated with carcinomatous changes, while duodenal, by virtue of their being contained in a portion of the upper intestinal tract that has a smaller lumen, are more liable to constriction and therefore pyloric obstruction. Wilson and McCarty held that 71 per cent. of 153 tabulated cases of distinct gastric carcinoma showed, microscopically and macroscopically, evidence of previous ulcer. Other series show that in about 60 per cent. of the cases of definite gastric carcinoma, there had been evidence in the history of dyspepsia, covering periods of from several weeks to several years, of symptoms that were thought to be due to peptic ulcer. The common complications are obstruction, retention with or without actual pyloric obstruction, hemorrhage, perforation and malignant degeneration.

Duodenal ulcers are usually in the anterior wall of the duodenum. Gastric ulcers are usually in the lesser curvature or posterior wall: both may be multiple. The majority of the duodenal ulcers are in the first 5 cm. of the organ. They are sometimes found, however, in other portions and have been found at the papilla of Vater with the opening of the common duct in the crater. Peptic ulcerations was found in 7.7% of 5884 adult cadavers. In 17 per cent. of the 140 cases of duodenal ulcer, perforation was the cause of death.

Etiology. The cause of peptic ulcer is unknown. Some believe that it is due to a high

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content of gastric juice combined with low secretion of protective mucus. Others, trauma from within and external trauma. But the more recent work of Rosenow, Nakamura and others quite convinces one that focal infection offers the best explanation in a large number of cases. They were able to produce punctate hemorrhages in the mucous membrane of the stomach in the animals injected with strains from the patients with recurring hemorrhage without demonstrable ulcer; and the prompt disappearance of the patient's attacks following removal of the tonsils.

A pure culture of hemolytic streptococcus was obtained from the blood of a person who was found to have had acute ulcer of the stomach and duodenum as a result of extensive burns of the 3rd degree. The ultimate cause of peptic ulcers, however, is the digestion of devitalized circumscribed areas of the mucosa.

Symptoms. Usually the symptoms of peptic, gastric or duodenal, ulcer are quite definite. The history generally will reveal dyspepsia, sour stomach, which has been in existence sometimes for a number of years, with periods of improvement alternating with relapse. "Hunger Pain" is by far the most important symptom of active ulcer, coming on from one and one-half hours to four hours after eating a meal; The taking of baking soda or food will relieve this pain. These patients very often will have food at the bedside and when they are awakened in the night by this "hunger pain" eat to relieve it so they may return to sleep, they often place themselves on a diet by eliminating one article of food at a time from their diet in the belief that their dyspepsia is due to their inability to handle certain kinds of food. They also find that eating relieves the pain as does baking soda. Their diet is reduced by themselves to very light soft food with two or three hour periods between feedings. The lighter the diet, the earlier the pain and the heavier the diet, the later the pain. When there is considerable contracted scar tissue in the ulcer, there is delayed motility and retention; anger, chilling, fatigue and bad eating will precipitate an attack. The period of quiescence may last for weeks or years, symptom free with a sudden return to activity, severe bloody emesis or tarry stools or both, or signs of perforation (acute abdomen) announce the beginning of activity.

Diagnosis. The diagnosis is usually quite simple. A history of abdominal distress, pain or

discomfort associated with eating with a more or less clocklike precision extending over a period of several days or weeks with periods of complete cessation of all symptoms followed by recurrences, is a diagnosis in itself. It is often found that with this history there can be found a definite point of tenderness on deep pressure a little to the right and above the umbilicus. The most reliable means of diagnosing gastric and duodenal ulcers is the x-ray. Gastric analysis (the Ewald meal) is helpful, but of recent years it has not been given the same consideration as it was formerly. It is sometimes found that people with a low percentage of free hydrochloric acid and low combined acidity have ulcer. In a recent investigation it has been brought out that people with ulcer who have been subjected to long exposure to the x-ray during gastrointestinal examinations have an achlorhidria, but there is no doubt but what gastric analysis is a very useful procedure and in a suspected ulcer case if it is found that there is a high acid per cent. it is of considerable diagnostic value. It is not as useful an aid in the differential diagnosis between gastric ulcer and carcinoma as it was formerly thought to be.

The examination of the stomach and duodenum has become one of the most important developments in x-ray work and all doubtful cases should be given a gastro-intestinal examination. By this means it is possible not only to demonstrate a lesion in the stomach or duodenum but also associated lesions in the gall bladder, appendix, kidneys and colon. The accuracy of roentgen diagnosis of gastric and duodenal ulcer is greater than is generally appreciated, not only as to their presence but as to differentiating gastric from duodenal ulcer. Carman has listed the roentgen signs of ulcer in two classes: *First*, primary and practically pathognomonic signs (a) Niche, (b) Accessory pocket, (c) Organic hourglass stomach; *second*, secondary and corroborative, but absolutely diagnostic signs—

- a. Spastic manifestations
 - (1) The incisura
 - (2) The spasmodic hourglass stomach
 - (3) Diffuse gastrospasm
- b. Retention from the six hour meal
- c. Gastric hypotonus
- d. Acute fishhook form of the stomach
- e. Alterations of peristalsis
- f. Localized tenderness

g. Lessened motility of the stomach

In approximately 30% of the cases there is associated pathology, generally the gall bladder or appendix being involved.

Medical Treatment of Peptic Ulcers. The problem offered in the medical treatment consists of the arrangement of a diet that will permit the maximum amount of secretory and motor rest at the same time supplying the patient with sufficient food to cover his daily energy expenditure.

The Sippy diet in outline: Milk & Cream... and Alkalines.

Give 90 c.c. of a mixture of equal parts of milk and cream at 7, 8, 9, 10, 11 a. m. and 12 noon and 1, 2, 3, 4, 5, 6, 7, 8, 9, and 10 p. m.

Alkalines

R Bismuth subcarb. 0.6 gm.

Sodium bicarb. 1.3 gm.

at 7:30, 9:30, 11:30 a. m. and 1:30, 3:30, 5:30, 7:30, 9:30 p. m.

On the alternate hours—at 8:30, 10:30 a. m.; 12:30, 2:30, 4:30, 6:30, 8:30 p. m. the following:

R Mag. Oxide

Sodium bicarb. aa 0.6 gm.

Rest in bed. After two or three days, soft eggs and well cooked cereals may be gradually added.

Smithies Diet: From three to seven days, depending on the presence of pain—nothing by mouth except one-half ounce of warm tap water, orange or grapefruit juice—the patient is not disturbed in his sleep for feedings.

Proctoclysis—drop method

50% alcohol—one ounce

Glucose—one ounce

Normal salt solution—eight ounces.

Every four hours, for the first few days, ten drops of tincture of opium are added. The proctoclysis is gradually discontinued as the mouth feedings increase.

As soon as the patient is relieved of the gastric distress three to seven days, he is given strained gruels—oatmeal, rice, sago, wheat, four to six ounces.

From the second to the third week of the diet—barley water, zweibach, butter, milk, boiled milk, puddings, purees, custards, scraped beef and eggs are gradually added. One ounce of orange juice, grapefruit juice or water is allowed

whenever desired during the treatment. The diet is continued for about six weeks.

There are many other diets which are well known—all have given good results,

They usually require hospitalization. Both the Sippy and Smithies diets keep the patient busy with their frequency or feedings. The contrast of these two diets is striking. Sippy, alkalines; Smithies, no alkalines, but in their stead, fruit acids. It is now accepted that fruit acids differ from mineral acids and they create alkalinity in the stomach secretions. We all see a number of patients with gastric or duodenal ulcer that will not be hospitalized. In these cases the medical treatment is often successfully carried out by a milk diet $\frac{5}{8}$ XI every 2 hours for a week, then replacing one feeding of milk with one eggnog the eighth day, two egg-nogs the ninth day, and so on until the patient is taking seven or eight egg-nogs a day by the end of the 2nd week. During the third to seventh week adding gruels, purees, custards, rice, puddings, fruit juices, olive oil, fats, gradually. Alkalines may or may not be given. Mag. oxide powders may or may not be given—depending upon the relief of gastric distress and the ability of the individual to handle milk which is often very constipating. These people are told to rest as much as possible but can usually remain at their given occupation. It is amazing the favorable results and apparent cures one sees from this type of treatment.

Surgical Treatment of Chronic Gastric and Duodenal Ulcer. There is considerable controversy as to the best type of operation. The tendency of late in some of our larger clinics is to advocate radical measures of resection with often removal of large portions of healthy stomach. There are some cases of gastric ulcer where malignancy might be suspected, in which there may be indications for a pylorotomy and gastroenterostomy or excision of the ulcer and gastroenterostomy and various others forms of treatment for the ulcer, as cautery excision, infolding of the ulcer, and in large ulcers, resection, with a sub-total gastrectomy, with a Polya type operation. But it is certain that a posterior no loop gastroenterostomy will give a satisfactory result in a large number of gastric ulcers. In duodenal ulcer there has been much said as to the value of excision of ulcer and pylorotomy versus gastroenterostomy. Of this E. J. Judd states.

"I am convinced that the excision of duodenal ulcers will never become general or take the place of gastroenterostomy."

The more radical the surgical procedure the higher the mortality. Many of our best surgeons still believe that posterior gastroenterostomy without occlusion of the pylorus is the best type of operation. There is no doubt but what 75% to 85% of all pyloric and duodenal ulcers are permanently relieved and cured by gastroenterostomy. This is particularly true in duodenal ulcer and four out of five ulcers are duodenal. They do not have a tendency to become malignant. The fear of secondary ulcer at the anastomosis has been much overestimated—from the statistics of many of the larger clinics it is found that about 2% of the gastroenterostomies are followed by secondary ulcer marginal, or at the anastomosis. If medical treatment is accepted as the treatment of choice in early uncomplicated ulcers, it certainly is indicated as a prophylactic procedure to be followed immediately after gastroenterostomy. Also that if it is conceded that focal infection is an etiologic factor in ulcer that the removal of foci of infection should be preliminary and routine in patients who are to have a gastroenterostomy. These foci are usually found in the tonsils, teeth, sinuses, gall bladder, colon, appendix, cervix and prostate. It seems quite possible that the number of these secondary ulcers can be minimized by complete removal of focal infection and intelligent post operative medical treatment.

Technique for Operation and Post Operative treatment.

GASTROENTEROSTOMY

Preparation: Usual abdominal preparation, dry shave and full strength iodine which is removed with alcohol.

Incision is made to the right of mid-line from the ensiform cartilage to a little above the umbilicus, through the skin and subcutaneous tissues, external sheath of the rectus, splitting the muscle fibres of rectus, then incising the posterior sheath of the rectus, and the peritoneum. After the abdomen is open and the wound well retracted, the stomach is brought into view and examined carefully for pathological changes, and if the ulcer is in the pyloric end of the stomach or in the duodenum, a place is selected on the posterior wall of the stomach for the new opening. The omentum, if not seen on opening the

peritoneum, will then usually be found lying rolled up along the lower border of the stomach. It is to be brought out of the wound and turned upward, protected with gauze laid upon the abdomen; on its lower surface is the colon running transversely from right to left.

The mesocolon is now opened with a pair of blunt tissue forceps without teeth. The position of the posterior wall of the stomach selected for the anastomosis site is brought through the mesocolon and protected; intestinal or stomach clamps are applied.

Follow the transverse mesocolon down to the spine and the commencement of the jejunum will immediately be felt and can be seen coming through the mesocolon, with the ligament of Treitz running from its upper border to the parietal peritoneum.

Bring up the commencement of the jejunum as it emerges from the transverse mesocolon and apply the protected clamps, being careful not to change the direction of the bowel. A small strip of sewed gauze eight inches long with a forcep at either end is interposed between the stomach and the bowel. The exposed portion of the stomach and bowel is now well walled off with large wet sponges.

The serous suture is now begun. For this a very fine Pagenstecher linen and a straight needle. The suturing is started from the right side of patient through the serosa of the bowel and stomach and continued across the area to be opened. The suture is locked at the last stitch and the needle and unused portion of the suture is wrapped in a wet sponge until it is needed later.

Now the stomach is opened, an incision made about an inch and a half long, through the serosa and muscularis down to the mucosa. The mucosa is now opened and any material carefully wiped away so as not to contaminate the wound. A small piece of mucosa is clipped out. The same procedure is done to the intestine.

The suture of the mucosa is now begun—for this 00 chromic catgut on a straight needle is used. The greatest care must be exercised at this stage of the operation. If the minutest part of mucosa is missed, serious and probably fatal hemorrhage will ensue. If the suture is drawn too loosely there is the same danger of hemorrhage, and on the other hand, if the suture is

drawn too tight, it will cut through. It is really the most important part of the operation.

This suture starts on the serosa of the jejunum through the mucosa, then back through the mucosa out through the serosa again, then through the serosa of the stomach and mucosa back through mucosa and serosa, then continued through the posterior side of the opening, completely closing off the new opening in the jejunum and stomach. The beginning and finishing ends of the suture are now tied and cut short so that the knot will be buried outside the stomach and under the suture line in the serosa.

It is well to use a small tenaculum with a needle-like hook to tightened up the sutures and take out all the slack before tying. The unused portion of the Pagenstecher suture is now used again and this line of suture in the serosa is continued around the anterior surface of the opening to the point of its commencement. The sutures are now tightened with the tenaculum hook and tied, and the ends cut short.

Two Pagenstecher sutures (interrupted) are now put in on either side of anastomosis through the serosa of stomach and jejunum. These are to act as stay sutures and are very important, for if there is any distention in the stomach or bowel from gas, the strain will come on these sutures and not on this anastomosis.

The anastomosis is now carefully examined to see that it is water tight and not bleeding.

The clamp and strip of gauze that were interposed between the bowel and stomach are now removed. The mesocolon is drawn back over the stomach and sutured by three or four interrupted Pagenstecher sutures, to the edge of anastomosis. The stomach, colon, omentum are now replaced and abdominal wall sutured in layers.

POST OPERATIVE TREATMENT

1. Nothing by mouth.
2. Head of bed raised 16 inches.
3. T. P. R. every one-half hour for three hours, then 3 hours.
4. Blood pressure taken every hour for three hours.
5. Heroin gr. 1/12 if necessary.
6. In 48 hours after the operation the patient is required to sit up in bed, or if condition permits, in a chair; and within another day or two is allowed to walk about.
7. After the first or second day, a low 1-2-3 enema is given, to empty the colon.

The upright position greatly facilitates drainage of the stomach. It is highly important that the colon should be kept empty and free from gas, for if it becomes distended it will stretch the anastomosis and interfere with its function.

Occasionally, immediately after the operation there is emesis. This is usually caused by blood admitted to stomach during the operation. It need not be a source of great worry.

Occasionally there is some regurgitation of bile in the stomach with bile in the emesis shortly after the operation. This usually stops after a day or two.

Post-operative Feeding:

Day of Operation: Nothing by mouth. Heroin, gr. 1/12 hypo as needed. Proctoclysis, 6 oz. every 3 hrs. (Proctoclysis 1,000 c.c., Sodium bicarbonate 3 drams).

Day after Operation: Same as first day.

Second Day (48 hrs. after operation): Tap water, drams 2, every 2 hrs. for 3 or 4 times. Then drams 2 every hr. for 3 or 4 times. Then drams 3 every ½ hr. (if no emesis). If well tolerated water is increased to ounce 1.

Third Day: Tap water drams 4 every ½ hr. for 3 or 4 times. Then alternate every ½ hr. with milk and lime water, equal parts. Oatmeal gruel drams 2 can be given in place of milk and lime water. After a few days, if there is no emesis, increase milk and lime water to one ounce and tap water to one ounce every hour as follows: 1:00 milk and lime water, ozs. 1; 1:30 oatmeal gruel, drams 1; 2:00 hot tap water, ozs. 1. This to be repeated.

Fourth Day: Chicken broth, drams 1. Oatmeal gruel, ozs. 1. Milk and lime water, ozs. 1. One of the three can be given to alternate with hot tap water so that the dose is given every ½ hr. The total liquids now should amount to about 30 ozs. and the gruel and milk and lime water about 9 ozs.

Fifth Day: Same, unless emesis. If they should have emesis, stop all except hot tap water, drams 2 every 2 hrs. and start proctoclysis, either drop method 2 hrs. on and 2 hrs. off, or 6 or 8 ozs. as retention enema. Fluid used is tap water, 1,000 c.c. and sodium bicarbonate, drams 3.

Sixth or Seventh Day: Fruit juices may be added in oz. doses.

Ninth Day: Custard, ozs. 6 and chicken soup, ozs. 6.

Tenth or Eleventh Day: Baked potato, ice cream, all soups and gruels.

To follow P. O. feeding: After ten days mashed potatoes, cereals, ice cream, cream soups are given in small quantities, increasing the amount daily if it is tolerated. By two weeks the patient should be on a liberal soft diet; gradually articles of regular diet are added to tray until the diet is about normal. Any article of food that is not well tolerated should be avoided.

Milk of magnesia may be given in 2 dram doses at four hour intervals, at the end of 48 hours after operation, to move the bowels.

Sutures are removed in seven or eight days.

Enemas should be given if there is any distention in the colon, as this will be a strain on the anastomosis and will interfere with the function of the new opening.

Conclusion: That the old calloused duodenal and gastric ulcers that have existed for some time with many recurrences of symptoms as well as those ulcers which cause obstruction and hemorrhage should be treated surgically.

That gastroenterostomy is the best type of operation and will give satisfactory results in about 75% or 85% of the cases.

That the occurrence of secondary ulcer marginal or at the anastomosis can be further minimized by the removal of all focal infection and intelligent post-operative medical treatment.

Central Trust Bldg.

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DISCUSSION ON DIATHERMY IN GENITO-URINARY DISEASES*

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During the past five years my associate Dr. B. C. Corbus and I have been attempting to

utilize diathermy for the treatment of genito-urinary conditions. In many instances this more accurately controlled method of heat induction has been used in conjunction with other older methods of treatment but in some it has entirely supplanted our previous procedures.

The special electrodes for endocervical, urethral and scrotal applications were designed by Dr. Corbus and are a distinct advance in the utilization of diathermy in these structures.

EFFECTS OF HEAT UPON THE GONOCOCCUS

It is a well known fact that the gonococcus has a very low resistance to even slightly increased body temperature. One who is familiar with the management of gonorrhea in the male is frequently impressed with the number of "spontaneous cures" directly following a severe epididymitis or prostatitis which has been accompanied for a number of hours with a temperature of 102-103° F. We have repeatedly seen the gonococcus disappear permanently from the urethra during acute respiratory infections, such as influenza or pneumonia, in which a temperature of 102 or more degrees had persisted for more than several hours. The pyrexia of typhoid has accomplished complete riddance of the gonococci in several of our patients.

Unfortunately the majority of bacteria are even more resistant to induced heat than a given normal body cell and, therefore, cannot be destroyed in the living organism directly without attendant tissue extinction. This is not true of the gonococcus. It has frequently been demonstrated that the gonococcus is instantly destroyed at a temperature of 113° F. or at 104° F. prolonged for six to eight hours. Where the gonococci can be localized in the tissues an exposure to 108° F. will destroy them in thirty or forty minutes.

Gonorrhea in Women: The sedative effect of a single diathermy treatment to the female urethra is most gratifying. In the average case the gonococcus cannot be found in the urethral strippings after one or two treatments. It is well known that under ordinary methods of treatment the gonococci do not persist in the urethral mucosa for prolonged periods, unless there is co-existent infection of the para-urethral glands. However, their more rapid disappear-

*Read Before the North Shore Branch Chicago Medical Society April, 1925.

ance after diathermy has been uniform and the absence of subsequent para-urethral infection tends to the belief that the urethral application is valuable for preventing this complication.

In forty-one instances of acute gonorrhea in the female, where this type of heat was directed to an infected urethra in which no evidence of para-urethral infection existed at this time, only one developed this complication later on. On reviewing the records of forty-eight cases in which diathermy treatment was continued to a complete cure of the urethral infection, we find that in only three was it necessary to treat the urethra more than three times.

In advocating diathermy as an improved method of treating gonorrhea in women we realize that any claims for a permanent cure must be based upon a long continued observation. During the past five years we have had the opportunity of repeatedly examining many of these patients and have been able to satisfy ourselves that this method brings about a complete and permanent elimination of the gonococcus.

Fifty-five women have had continued treatment by this method. Of this number twenty-four have been observed repeatedly during the past three years. Thirty-eight were checked for two years. The others were not seen after the cessation of active treatment and were not available for observation after the three month period following the application of their discharge technique.

Infection in Skene's and Bartholin's glands are treated by direct destruction with diathermy.

Chronic salpingitis gives uniformly good results when treated by diathermy alone. Increased vascularity and free drainage through the cervix probably account for these results rather than the direct bactericidal effect.

Gonorrhea in the Male: Because of the anatomical variations of the male urethra we have been unable to standardize a method which will successfully induce the required amount of heat necessary to destroy the gonococcus in most instances.

In the complications of male urethritis diathermy is of the greatest value. Peri-urethritis, cowperitis, prostatitis, epididymitis and arthritis are amenable to diathermy treatment in most instances. It goes without saying however that

where frank suppuration exists surgical drainage is also necessary.

Surgical Diathermy: The "surgical" application of diathermy implies the induction of heat beyond the physiologic tolerance of normal cells. We have used it successfully in genito-urinary diseases in treating common warts, verruca acuminata, caruncle of the female urethra, prolapse of the female urethra, urethral polypi, ureterovesical cysts, carcinoma of the penis, female urethra and bladder.

Prior to July 1, 1924, we had treated twenty-eight cases of carcinoma of the bladder by diathermy. Five cases had transurethral treatment only; four cases were subjected to a combination of transurethral and suprapubic treatment and nineteen had suprapubic diathermy alone. In this series there was one hospital death. In the remaining twenty-seven there have been three deaths. Of the remaining cases twenty-two are free of recurrence after eighteen months, twenty after two years, fifteen after two and one-half years, and seven after four years. Three patients have had recurrence of carcinoma in the bladder during the past year. Two of these have been again treated by diathermy and are living while one died with metastatic involvement.

Of the cases in which no recurrence has taken place, all were clinically and objectively malignant. Of these fifteen were verified by microscopic examination. In addition to apparent cure, the very satisfactory urethral and bladder function is notable. The smallest bladder capacity in any of these patients is six ounces and practically all have regained normal capacity and are free from distressing urinary symptoms. In no instance have we burned through to the rectum or vagina.

The successful use of diathermy in genito-urinary diseases depends not alone upon suitable apparatus and equipment but upon scientific application based upon intelligent judgment, and accurate diagnosis.

One should as carefully accept the good results as he should be slow to condemn the failures until he has carefully studied the method and has had a sufficient and honest experience in its application.

30 N. Michigan Ave.

SOME THINGS THE PUBLIC OUGHT TO
KNOW ABOUT SCIENTIFIC MEDICINE.
WHY NOT TELL THE PATIENT
ABOUT THE DISEASE THAT
KILLS HIM?*

W. F. GRINSTEAD, M. D.
CAIRO, ILL.

From year to year it has become more and more apparent to me that the proven facts of scientific medicine have not been laid bare to the public as they should be by the regular, educated medical profession. The pretenders who teach false doctrines are brazenly flaunting their bunco before our people, both by the spoken and printed word. The evidence they offer is chaff and would not be accepted for a moment by any scientific body who requires verification of what is asserted. A surprisingly large per cent of people will accept as true, the statement by a faker from a soap box on the street, without any demand for proof whatever. The printed advertisement, paid for by a lying scoundrel, is accepted in the same way. They shut their eyes and gulp it down without question.

The educated, scientific man who has proven facts for his guidance has shrunk from these methods of the conscienceless quacks and has surrendered the field of public education on health and disease to these brazen mountebanks. The scientific physician who is guided by established truth and the instinct of honor, has been bluffed by these unblushing pretenders. He has been and is now, too modest. He does not tell the people enough about the achievements of medical science and the conclusive evidence that these achievements are based upon. It is stupid for us to assume that our patients know these things without being told. The quack boldly announces a falsehood. The man whose service rests on demonstrated truth recoils from publicity lest he might appear like the fraudulent pretender. The laity suffers the consequences. In discussing the absurdities of some of these conscienceless crooks, with thoughtful friends possessed of analytical minds, they have exclaimed: "Why don't you doctors who deal in proven facts of science expose these imposters?" The answer is the people won't allow us to show them. They say we are selfish and prejudiced. The world's greatest

showman, P. T. Barnum, who became a millionaire, coined a phrase which is familiar to everybody. He said, "The people love to be humbugged." This seems to be a great truism. Let me illustrate. Very recently I fell into a discussion with an excellent lady friend who is a believer in Christian Science healing. She started the tilt by enthusiastically directing my attention to a large sum of money that had been raised and contributed to the tornado sufferers in Missouri, Illinois and Indiana by the Christian Science people. She quoted the contribution from Chicago and Boston. Before I had time to put on the brakes, I exploded with the declaration that it would require a lot of money from certain people to offset the harm they do. That raised her temperature to a dull, red heat. I said, "You don't understand the principles of this doctrine you advocate. You don't know how it originated nor the motive of the originator. You don't know how utterly unscientific it is." I said to her that I had a little book that turned this thing inside out so that anybody could understand; that I would give her \$10 if she would read it. "No!" she exclaimed, "it is prejudiced. I wouldn't read it." There you are. How can scientific medical men who deal in proven truth protect such people? Nobody objects to Christian Science as a religion. This great Republic of ours grants a wide range of freedom to all forms and creeds of worship; but when a religious sect undertakes to deal with the causes, prevention and cure of diseases that kill people, they must "deliver the goods." They must show us, particularly if we are from Missouri. The greatest war in history has ended so recently that it is fresh in all our minds. Millions of people were in arms and hundreds of thousands went to their death. The science of medicine and surgery, through its noble disciples—educated, trained and equipped—boldly went to the front and prevented more hundreds of thousands from going to their death. They knew that the deadly blood poison was due to a living germ which they had seen under the microscope and which needs only an open, raw surface on the injured person for its implantation and proliferation. That is a favorable soil. They knew how to treat that soil with antiseptics so that this deadly microbe could not live in it. They knew that the fatal disease, called lockjaw, was admitted to the human body under similar conditions and that they had a

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serum which, when injected into the blood of the wounded soldier who had been exposed to this fatal, living germ, his body was transformed into a soil that the parasite could not develop in. These medical heroes knew that, in the Spanish-American war, a quarter of a century ago, more of our boys lost their lives from typhoid fever than from the weapons of the Spanish army and navy. They knew that the micro-organism known as the *Bacillus typhosis* was the cause of that mortal disease and that it could not develop in the blood of a patient who had been vaccinated with anti-typhoid serum. They protected their patients in the world war and saved their lives. Typhoid fever was negligible in the world war. In the Spanish-American war, in 1898, one division of our men, comprising 10,759 soldiers, had 4,422 cases of typhoid fever. Think of it! Nearly half the division was stricken; 248 of them died. The World War came 20 years later. Vaccination against typhoid had been discovered. What happened? Only one of our boys in every 3,756 contracted typhoid fever, and only one in every 25,641 of them died. The parents of these boys will be interested to know who made this wonderful change possible. They are more interested in what scientific medicine did for those they loved than they are in what the cults didn't do. Why not tell them on occasions like this? Who else will tell them? It looks more like cowardice than modesty if we fail to do it. It looks like the blatant, unscrupulous quacks have us bluffed. They cannot deliver the goods. We can do it; have done it; are doing it and are going to keep on doing it.

Now, how was this great blessing vouchsafed to our boys in the trenches? Did the Christian Science healers do it? Did the osteopaths and chiropractors do it? Did any other of the two dozen pretending cults do it? I have seen no such record of them. I have no knowledge that the Surgeon General of the United States Army or United States Navy called them into consultation in this great emergency. Why? Had they not been through high school and had four years in medical college? No! Had they not been trained in laboratory research and the use of the microscope? No! Had they not seen the living germ that causes typhoid fever, lock jaw, blood poison, dysentery, malaria, yellow fever, bubonic plague, consumption, cholera, diphtheria and numerous other deadly microbes?

No! Could they not transfuse blood into the veins of our prostrate boys who lay pale and helpless on the battlefield? No! Could they not straighten, drill, wire and splint broken bones? No! Could they not locate, catch and tie wounded vessels out of which the very lives of our boys were pouring? No! It is fair to assume, however, that the Surgeon General of the Army, the Surgeon General of the Navy and the Surgeon General of the United States Public Health Service thought such knowledge and training was necessary.

Nothing is more certain in the world than that the educated, scientific medical profession have established the almost miraculous prevention and cure of disease. The activities of these educated, scientific research workers and technical executors of the achievements, provide the beneficence and glory of modern medicine. It is gratifying to know that many of the learned laity have grasped these facts. It must be remembered that the educated laity in all departments of life are directly or indirectly the mentors who point the way for the countless multitude of uneducated and untrained thinkers.

In this connection I was much impressed by a paragraph in a wonderful address by the President of the American Bar Association at Detroit, Mich., on September 3, 1925. It shows the trend of the lay conception of the achievements of modern medicine. In contemplating this paragraph it should be borne in mind that the orator that spoke it is no ordinary American citizen. He is a great lawyer, a great statesman, a great sociologist and a great diplomat. He has been honored by a seat on the Supreme Bench of the United States. He has been honored by a place in our President's Cabinet, which is next to the Presidential Chair itself, and now enjoys that coveted and high honor of the presidency of the American Bar Association. I refer to Hon. Charles Evans Hughes. The quotation from his presidential address on September 3d follows:

"Yet it is with respect to the freedom of learning that we find a disposition to impose restrictions which cannot fail to give us grave concern. It is to be observed in the field of medical research. What department of intellectual activity is more important to a free people? Of what avail are the privileges of life, if we do not live? Of what gain is liberty, if we succumb to the ravages of communicable diseases? Of what

value is government, if it puts research under ban and permits the spread of plagues which knowledge may prevent? In what area of endeavor has there been such fruitage as in preventive medicine, saving countless lives and putting an end to indescribable agonies of human beings? Yet we observe persistent attempts in our legislatures not only to impair the immunities already gained, but to hamper scientific investigations through which alone the scourges of disease now beyond remedy may come under control."

What does this word cult mean? It has come into frequent use, late years. It means, "An object of great admiration, devotion and attention." It comes from the Latin word *cultus*, which means worship. In combating false doctrines many serious questions arise. The problem of preventing and curing disease and saving human life is more serious than the problem of acquiring or saving human wealth. It cannot be treated frivolously. Whose duty is it to teach the people what causes disease, misery and death? Should the educated, scientific, rational medical profession do it; or shall the cults do it? The one deals in truth, based upon the facts of dependable evidence; the other upon plausible theory and fiction.

If the former must take the responsibility, how shall they go about it? How can they sift the wheat from the chaff so that it will be clear to the masses who need it? Many forward looking people are coming to believe that the best way to attack false doctrines in medicine is not to attack them at all. The attack method too often arouses sympathy for them. Sympathy naturally runs to the under dog in a fight. They hold that the most effective method is to array, in bold, clear relief, the indisputable, incontrovertible evidence that proves the facts of science. I am inclined to agree with this attitude. It is more impressive to offer positive proof of what we can do than to lambaste the bunco steerer for what he cannot do; yet it occasionally seems necessary to expose his absurdities to the public gaze.

While formulating this address I glanced at a weekly paper, published within twenty-five miles of Cairo, in a town where members of the Southeast Missouri District medical society practice scientific medicine and here is what I saw:

"A TERRIBLE GOITRE

Removed Without Operation. Mrs. Cox Tells How. Was Short of Breath. Eyes Bad. Could Not Work.

In Bed Part of Time. Stainless Liniment Used. Mrs. Dot Cox says: 'Come to 40 Prospect St., Delaware, Ohio, and I will show you what Sorbol-quadruple has done for me. If you can't come, write.' Manufactured by Sorbol Company, Mechanicsburg, O. Sold by all drug stores. Locally at ——'s Drug Store."

Now, why don't the people in that town who have goitre ask the family physician if that stuff will cure them? Why don't the family Doctor order the stuff in his prescriptions? The patient knows that the family Doctor will do anything on earth to cure his patient. The answer is that the Doctor knows the stuff will not cure his patient.

Now, the druggist who fills the prescriptions for the doctors who are trying to give the people a square deal, is co-operating with these imposters and supplying the scientific doctor's patients with this slop. Is that consistent? Is that honest, fair and just? Would you laymen like for your family physician to run an Ad. like that in your home paper? Don't you think such a practice would put him on the same plane with the bunco steerer? The scientific man in medicine must enlighten the public for the protection of the public; but he cannot do it by the method quoted above.

THE NERVOUS PATIENT AND THE GENERAL PRACTITIONER

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Organic diseases are discussed far more frequently before medical societies than are functional disorders. And yet the latter, to put the situation gently and mildly, are by no means uncommon.

This subject is important not only because of its frequency, but also because of the difficulty in controlling such patients. Furthermore, not sufficient thought is given to their handling and hence the many failures. This is responsible for their flight to the medical cults, isms and fads, not to mention medical quackery.

Now, whether we like it or not, the nervous patient is here with us, and, unless we wish to drive him to the cults and isms, we must learn to recognize him, to become interested in him, to study him and to handle him. If we do not do this, others, much less qualified than ourselves, will do so. In fact others have already done so in great measure.

This subject is important to the average physician and the general practitioner for other reasons. In the first place, there is a nervous and mental aspect to every case of illness of organic nature, whether within or without the nervous system itself. In fact, it is because of his apprehension, anxiety, fear, uneasiness and restlessness that the patient seeks the physician. In every case, therefore, in addition to any possible organic disease we must appreciate that there is a nervous and mental aspect which must be recognized, reckoned with and treated. Often the nervous and mental aspect may be of more significance than the organic condition present. A failure to attend to the nervous and mental condition of the patient may lead to a loss of control of the latter, the wrong impression upon him, and an inability to get favorable results because of the lack of cooperation by the patient.

The importance of differential diagnosis between organic and functional disorders is being appreciated more and more by the general practitioner. Of the mistakes in diagnosis, two of the most common are that too frequently functional diseases are diagnosed as organic and organic diseases are diagnosed as functional.

It is for this reason that no one not a physician is in a position properly and safely to exclude organic disease to begin with—and before diagnosing a purely functional disorder we must be able to exclude, unquestionably, organic disease as the direct cause. Thus one must exclude local pathology in all cases where localized symptoms are complained of and there is any suspicion of local organic disease.

But just as there is need of the physician being able to exclude organic disease, so also is there need of his being a good practical psychologist and a student of human nature and behavior. For this, a careful sequential history, a complete physical examination, with the necessary laboratory work, repeated if there is doubt, is necessary.

It is understood, then, that the physician has considered and excluded such conditions as early tuberculosis, cardiovascular-renal disease, hypertension, hyperthyroidism and the like, and that organic neurological conditions such as cerebrospinal syphilis, general paresis, multiple sclerosis, etc., have also been ruled out. Likewise intoxication by alcohol, lead and the rest will

be presumed to have been reckoned with and excluded as etiological factors.

Granted that we have a truly functional nervous condition to deal with, how shall we handle it?

ILLUSTRATIVE CASES

To force home the issues involved I can do no better than cite a few illustrative cases and then hinge my discussion thereafter upon them as a foundation.

Case 1. A young woman, 22 years of age, single, seen in April, 1924. The duration of the present trouble was three years; she had been out of work for two years; and she had been gradually getting worse.

The symptoms of which the patient complained were tremors and trembling of the hands, face and lips, pressure feelings about the heart, fatigue, poor appetite, a loss of fifteen pounds in weight, and constant crying spells. She was convinced that there was some physical disease responsible for her trouble. She had been in the hands of many different physicians and had been under the last physician's care for about one year, having been treated by injections for the past half year. She had become desperate about her condition. The family did not know which way to turn, and so they went to their former family physician, who referred the case to me.

Careful, repeated physical examination showed no evidence of tuberculosis, hyperthyroidism, cardiovascular-renal disease or any other definite physical disorder. The usual laboratory tests, including metabolism and stereoscopic x-ray of the chest were negative. And yet, there were her complaints. To dismiss her and tell her that there was nothing the matter with her and advise her to forget it, when she had had trouble for at least three years and had been unable to work for two years—to act thus is but to throw up one's hands and drive the patient to extreme measures; in fact, to drive her from the medical profession straight into the welcoming arms of the medical cults and quacks who are ever ready and anxious to receive her.

A careful sequential personal history and personality study were surely in order. Such a procedure revealed the following: The patient was definitely of the shut-in, non-cooperative type. She at first denied that there was any problem in her personal life responsible for her trouble; she became irritated at any efforts to probe into her private mental life; she insisted that her condition was due to physical disease, and she demanded medicine which would cure her.

For the first few visits, especially until I myself had become convinced that her condition was functional and not organic, I prescribed sedatives. This gave her faith temporarily, satisfied her demand, and controlled her tendency to cry. I gradually let her know that in addition to any medicine that she received, it was necessary for her to become confidential with me and to discuss her personal problems with me or she would not be cured. Finally she agreed to answer any ques-

tions I asked. She next agreed to go without medicine. Gradually she entered into free, spontaneous discussion of her personal difficulties. She admitted that she was very self-conscious; that she feared to look others in the eye when she spoke to them; and that she not only did not like to but even feared to meet other people.

To make a long story short, she kept to herself, was not mingling with others socially, was not working, feared social relations, and spent most of her time bemoaning her fate, restless, dissatisfied, crying, depressed, unhappy. She ate little. She lost weight. She became easily fatigued. Her hands trembled. She became convinced that there was some internal physical cause of her condition—perhaps in her brain or in her heart, or in her pelvis or somewhere else. Not knowing how to solve her problem she naturally sought medical advice to find out the organic cause of her condition and to cure her by medicinal measures.

She was willing to subject herself to any treatment to be cured. I have no doubt that, like many other patients of this type, she would have agreed to any proposed surgery which guaranteed her a cure.

The personality study showed that she was small in stature, delicate in makeup, nervous, sensitive and not good-looking. She felt herself inferior to others because of this and gradually withdrew from life's struggle. She dressed decidedly unbecomingly. Convinced of her inferiority, she indulged in morbid introspection, self-observation and self-analysis, with marked self-depreciation and self-accusation. This led to increasing self-consciousness and fears of all sorts. This increased her nervousness and led to tremors. She became certain that others could notice her reactions and this further embarrassed her, so that eventually she came to fear social contacts of every sort, did not look others in the eye, and isolated herself more and more.

There was no definite evidence that the sex element played any special role in this case.

The cure was effected by first showing the patient that her trouble was not physical in origin but due to the way she was handling her life's problems, including her own personality; that it was positively and wholly curable; and that cure would be effected by changing her viewpoints and attitudes and her ways of thinking, feeling and acting—of living.

As a result of discussion, she gradually adopted a new philosophy of life, she developed faith and confidence in herself, with more and more self-assertion. She went horseback riding. She joined a gymnasium class. She began to go to lectures. She felt herself overcoming her shut-in, isolation tendency, her overtimidity and her hesitancy. She finally decided to take a vacation and to go to a summer resort—to try it for two or three days, to see how she would get along, she said. To her great surprise she found that she liked her companions so much and they were so pleased with her that she stayed for two months. Following this she attended a commercial school, took typewriting and stenography four nights a week, joined an effective speaking class by day, and tried her best to make friends. She began reading books and magazines on

optimism and achievement, found herself smiling and laughing more and more, and finally looking people in the eye. In short, she became a changed personality. She returned to work. She is now a self-starter, directing herself and thinking for herself. I think she will stay well and get better month by month. At any rate she is started in the right direction.

If she had not been handled in the manner above described she would have gone from bad to worse; even full-blown dementia praecox might have developed, for she was non-cooperative and shut-in and was clearly headed in that direction.

Certain it is that medicines or other physical measures alone would never have cured her.

Case 2—A young business man, aged 28, was brought to me by his brother in May, 1924. The complaints were that he had been constantly crying like a babe; he denied that he knew why; he also suffered from insomnia and loss of appetite; he had lost 12 pounds in weight; he could not attend to business. His condition was getting worse. He was becoming frantic and panicky. He admitted feelings of indecision, lack of self-confidence or faith in self, with self-depreciation and self-accusation. He felt incompetent. Ideas of suicide came to mind. He could not go on with business. He implored help. His condition had been gradually progressive for one-half year past, with insomnia for the preceding two months.

Careful physical examination, including the necessary laboratory tests, showed no evidence of organic disease within or without the nervous system.

He at first denied that he knew the reason for his condition. I assured him that it was not organic and that he would positively get well. Hydrotherapy and hypnotics were at first employed temporarily for his insomnia, with sedatives by day. Finally he admitted that his condition had been getting worse for about a year past, due mainly to worry centered about plans for marriage. He had married two months ago, had started a new business venture and feared the outcome. Then came regrets for his lack of progress before marriage. He became very envious of the success of others and very desirous of immediate and assured financial success and of being in a position of equality and security enjoyed by his brothers and others. Envy, jealousy, constant comparisons, feelings of inferiority and incompetence and their offspring came more and more to dominate his mental state. Continual mental conflicts on this subject led to insomnia, and this to fatigue, anorexia, and increased emotionalism. Other symptoms were soon added.

Under the initial treatment above mentioned the crying soon ceased. Insomnia was then controlled. Plenty of rest, sleep, food and water were assured. For the first week he went to work only one-half of the day. The amount of work was increased until he was back on a full day's work every day. He was cautioned to do things slowly, quietly, calmly, systematically. Various means of gaining poise were suggested. He gradually accepted a sensible philosophy of life. In a few weeks he was himself again.

The cure in this case was effected with little loss of

time from business, and without sending him away from his home, although his family, fearing brain tumor or what not, were willing and even anxious to send him to a private sanitarium, or California, or do anything else I suggested.

Case 3—A single woman, aged 24 years, first seen in April, 1924. She complained of frequent headaches, dizzy feelings, a dazed mental condition, insomnia, feelings of weakness and an inability to attend to business. This syndrome was of several weeks' duration. She suggested that an x-ray of the skull might be indicated to discover the cause of her condition.

Physical examination was negative. Analysis showed that until a few months ago she held a very desirable position of the sort she liked. The organization failed. She then went in for house-to-house canvassing. She thoroughly disliked it and was dissatisfied. She could not put her best efforts into it and was doing poorly financially. This caused added worry. Then came insomnia, dizzy feelings, and headaches.

The solution lay in getting her to go back to work as stenographer, a position she had once held, but the thought of returning to which she could not at first entertain because it was quite a descent, in her eyes, from the position of freedom and authority which she had recently held. I showed her how it would temporarily solve the situation, and she could keep her eyes open for a better position at the same time.

Finally she adjusted, her symptoms disappeared, and she became her old self again.

Case 4—A woman, 35 years old, with neurasthenia and hysteria, in bed for the past nine months, and in bed much of the time for the preceding six years, was found to have a pronounced condition, the origin of which was traced to domestic conflict, with final separation from her husband. By physical and mental measures she gradually was restored to health. Eventually conciliation with her husband was brought about and she is now a healthier, happier and wiser woman.

Case 5—A married woman, aged 36, wife of an active newspaperman, for several months had been having constant outbursts of crying. She denied that she knew the reason therefor. Physical examination negative. Menses normal and not related to her condition. A study of the case showed that her trouble was due to a too lonesome life. She lived at home with two children, and in addition to having no help with her housework, she had no social life, belonged to no social organization and only occasionally went to the movies. Cooperation by the husband brought about a change of home and living conditions, life became fuller, and the patient was cured.

And so these cases go. There are all types, with all kinds of symptoms and all manner of causes. But all of them show the ultimate psychological origin of the condition.

THE BASIC CAUSE OF FUNCTIONAL NERVOUS DISORDERS

These cases show clearly that it is as much of an error to look at disease from a purely organic viewpoint, as it is to regard it from a strictly psychological standpoint.

One cannot hurry with these patients. One must give them plenty of time. Little progress can be expected without the full establishment of confidential relations between patient and physician.

The essential characteristic of nervous conditions must be recognized as that of nervous and mental instability, discord and conflict. It is found that personal conflicts, based on real or imaginary grounds, are the fundamental cause of functional nervous disturbances.

The few illustrative cases given above show that in the face of disappointment or disaster, we may resort to dreaming instead of working, to fear instead of courage, and that functional nervous disorders may be the end-product. They are thus essentially disorders of the personality.

In organic diseases not so much attention need be given to the personality, although even here, as I have already said, it must not be neglected; but in functional nervous disturbances it is the primary and fundamental question. This is because of the fact that functional nervous disorders have their birth in personal relations. As Emerson¹ has well said: "A functional symptom means that that is the best the patient can do, under the circumstances, considering his knowledge, wisdom, and what he is up against. It is a sort of personal equilibrium, in his relations to other persons; a poor equilibrium, but his own."

They are evidences or symptoms of personal failure, and their causes lie for the most part in personal weakness, ignorance, poor judgment and lack of wisdom which in turn are themselves dependent upon personality, social opportunity, education, training, and personal care.

When losing in life and disappointed, when there is a gap or a conflict between the powers and the desires of the individual, disorganization of the personality may result, and maladjustment or maladaptation is the outcome.

All of us meet with obstacles to the satisfac-

tion of our desires and hence undergo mental and personal conflicts.

When the pressure of obstructing reality becomes too great for any of us, there is a tendency to avoid the conflict and to flee from the disagreeable situation to unreality, phantasy or dreaming. How quickly we are prepared to do this depends upon the sensitiveness of our nervous and mental makeup and the harshness of the handicapping realities of life in our particular case. The functionally nervous patient is trying to escape from some disagreeable difficulties (personal desires, other persons or things) and to seek refuge from an objective world with which he is dissatisfied because it is blocking self-expression. The functional neurosis is, therefore, a symbol of the mental conflict which has the patient within its grip.

There is a demand on the part of the patient for immediate solution of his personal problem or difficulty. He demands instantaneous gratification of his desire, without effort. In other words, he has become frantic and panicky in his quest for immediate satisfaction of his balked wishes.

In his blind flight one may detect the tendency to find a material, tangible, physical or bodily cause for his subjective complaints. So pronounced is this that it may lead to unnecessary surgical operations. For, it must not be forgotten that his hopes and fears, his aspirations and disappointments, his cravings and regrets are often but vaguely recognized by the patient himself. But in the average case, a painstaking study of the sequential history of the case will as a rule show that there were evidences of uncertainty and apprehension, feelings of insecurity and of inadequacy for some time preceding the final breakdown. This prodromal uneasiness and uncertainty the patient may try earnestly to overcome but when the ultimate nervous breakdown takes place, it is frequently either forgotten or ignored by the patient.

What are some of the things for which functional nervous symptoms stand as symbols? Here we may include any and every kind of human obstacle, handicap, disappointment, misfortune or difficulty, such as business and financial worries and reverses, illness of one's self or one's family, inability to meet the ex-

penses of living, the problems of increased responsibility such as occur with marriage, failure in the satisfaction of our aspirations and our desires for expected reward as a result of our effort, changes in our method of life or in occupation, misfortune of one sort or another afflicting ourselves or the members of our immediate family, and personal disappointments, accidents and bereavements of whatever nature.

The physician who would study and treat these cases must perforce become interested at once in human desires, mental conflicts and personality. He finds himself engrossed in a truly humanistic psychology. And he will find that human cravings and fears, wishes and regrets and the manifold ways of dealing with life situations are as interesting, as important and as real as germs seen under the microscope, an eruption on the skin or a membrane on the tonsils.

THE BASIS OF TREATMENT IN FUNCTIONAL NERVOUS STATES

The treatment in functional nervous disorders consists of physical and medicinal measures on the one hand, and mental measures on the other hand.

In many of these cases it is necessary for a certain period, especially in the beginning, when the symptoms indicate it, to prescribe for the individual symptoms palliatively—hypnotics and baths for insomnia, sedatives for nervous and mental unrest by day, massage, rest periods and other measures for the nervous and mental irritability, increased rest and diet for loss of weight and fatigue, tonics for poor appetite. This symptomatic treatment is absolutely necessary in most cases with acute symptoms—but only as temporary measures and partial aids. One should guard against the patient resorting to self-medication. Nor should one stop there, for then he has but scratched the surface, failing to get at grips with the real cause or to do any lasting good. For it must never be forgotten that nervous conditions not directly of organic origin are curable by other than strictly physical or medicinal measures.

Whereas organic diseases are treated by physical measures primarily, functional nervous disorders should be treated by mental measures primarily and physical measures secondarily.

Since functional nervous manifestations are

at bottom the end-result of disturbed ideas or thinking, it is only by mental readjustment that a lasting or permanent cure can be brought about. The patient must know that his symptoms are fundamentally due to disturbing ideas of which he is clearly or vaguely aware, or which he ignores or has forgotten. He must definitely appreciate and recognize the ultimate mental origin of his symptoms and overcome his harmful thinking by training himself in healthful thinking. In other words, for recovery from functional nervous illness, mental reeducation is a foundation stone. Since his physical and mental symptoms may be but the result of his thinking and feeling, we, as physicians, do not do our duty by the nervous patient unless we have made him see the unquestioned relation between his symptoms and his general attitude to life.

Once a positive diagnosis of the functional nervous disorder has been made, the proper ultimate treatment of the patient, if real results are sought, is psychotherapeutic. And by psychotherapy I mean nothing more than instructing an individual so that he has greater self-knowledge, this instruction being given by one in whom he believes. Since the underlying causes of functional nervous ailments is so often concealed from the patient, self-knowledge is urgently demanded. In other words, the patient must be made to see clearly that mental conflicts are at the basis of his condition and to face courageously and with insight the personal problems which have been responsible for his trouble. "The thing that interests the patient is how he can be cured; and if we have traced the causes of the trouble back to personal relations which in their turn cause anger, fear, or rage, the thing most obvious to do is so to live, think and act, that personal conflicts are avoided, won, or born consciously and not repressed."¹

Although legitimate suggestion is of great value, charlatanry should not be employed. After all, however, analysis and reeducation is the true ideal, for the patient must not only be shown the real, psychic origin of his condition, but he must also have his viewpoints or mental attitudes changed to keep him well nervously.

The patient must learn that he must stop trying to flee from reality. He must be shown

the meaning of his mental conflict. He must learn how to face life, its problems and obstacles, courageously, meeting them squarely and solving them with decision. He must train himself to control and guide his emotions and his thinking. He must learn how to react more calmly and moderately to the stresses, strains, and trials of daily life. He must become less self-centered and more self-forgetful. He must look forward and outward, rather than backward and inward. He must develop a wiser and a more wholesome philosophy of life from which such self-knowledge and self-direction will result that there will be gradually built up a more stable and self-sufficient personality. The nervous patient must needs cultivate as a most essential part of his makeup, the habit of cheerfulness and of smiling, the sense of humor, the spirit of healthy optimism and meliorism. He must cultivate psychic hardening, perseverance, morale, and the carrying-on spirit. He must encourage within himself an undying faith in and hope for progress and improvement, a never-say-die spirit, the sporting attitude (of being a good loser), fearlessness, a state of mental preparedness for mistakes and mishaps, with a dogged determination to return to the battle of life over and over again, be the outcome what it may.

Very often in these cases we have a veritable pitched battle of personalities, a psychological game or contest, a conflict of minds or wits, between the patient on the one hand and the physician on the other. And, unfortunately, in all too many instances, the physician is defeated, and the patient is the victor and remains a mental and nervous invalid.

Although inheritance or organic disease or deformity may play a role in the initiation of functional nervous conditions, we must not neglect the all-important factors of ignorance and fear, of the mental attitude of the patient.

The general practitioner must discover these patients, interest himself in them and redirect them into the right road. Sadler² has well expressed himself in the following words: "It is my belief that in the future the physician's consulting office is destined to become a psychotherapeutic laboratory in which the human nervous system will be scientifically studied, diagnosed and prescribed for. The day in which

the doctor's office is to be merely an adjunct to the chemist's shop is about over. The physician of the future is destined to become a mental minister, dispensing courage, hope, confidence and stoicism to his patients, all of whom are more or less disordered in nerves and discouraged in mind. These nervous people must be taught how to think logically and reason calmly, and in view of the present organization of society and its agencies of physical, mental, and spiritual relief, I cannot see how this work can be effectively carried out, except by the medical profession."

The general practitioner sees these cases as a rule long before they come into the hands of the specialist in nervous and mental diseases. The general practitioner has these cases under his care in the earliest, most easily and most quickly curable stages. It is his duty to become interested in them and to study them as carefully as if he were dealing with a condition due primarily to a germ.

There is nothing mysterious about these functional nervous disorders. No wonderful or magical powers are necessary to understand and treat them. But attention, interest, time, thought, patience and study are absolutely essential. And if the general practitioner does not tackle the job, and if he lets these patients drift and float, willy nilly, he certainly has no right to complain when he discovers that they have found their way to the medical cults and isms whose ranks are swelled by the army of nervous patients who flock to their banners. After all, let us not forget that people turn to Christian Science and its substitutes as a rule only after a long period of woe.

The neurologist and psychiatrist is aware of the problem, but is the average general practitioner?

The sooner the general practitioner fully realizes the situation, and decides to enlist and help in its solution, the better will it be for the patients and the physicians, and the worse for medical cults and their offspring.

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HAY FEVER IN THE CHICAGO TERRITORY*

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CHICAGO

The implication of pollens in the causation of a large percentage of the spring, summer and fall coryzas has made it necessary for those interested in this problem to familiarize themselves with the distribution and habits of the local offending plants. As reports¹⁻⁸ made from various sections of the United States show that the significant flora varies widely, and as no one to my knowledge has reported the Chicago territory, it was thought advisable to record observations made here during the past five years.

The geographical position, the geological formations and the topography in and about Chicago make the plant life and habits differ in some respects from those sections already reported. The following description is taken from the *Bulletin of the Geographic Society of Chicago*.⁹

The City of Chicago is situated on a low, strikingly flat plain, bordering the west side of the head of Lake Michigan. Its inner border is formed by the shore of Lake Michigan, while its outer margin, marked by higher land, extends from Winnetka on the north, through Galewood and LaGrange on the west to Glenwood and Dyer (Indiana) on the southwest and south. Its greatest width is almost fifteen miles in a direction southwest from the city.

From the shore of the lake, the level of which is about 581 feet above mean tide level in New York Harbor, the Chicago plain rises very gradually to a nearly uniform height about 60 feet above the lake. At this level the flatness of the plain is interrupted and to the west and south the surface rises promptly and its topography is rolling. The rise is continued until the rolling surface reaches an extreme altitude of 200 feet above the lake. From this considerable elevation there is a decline toward the west, southwest and south. In other words, the Chicago plain is shut in by a broad ridge-like belt of gently rolling topography. Observations beyond the vicinity of Chicago show that this ridge belt comes down from the north and swings about the head of the lake basin. It is in reality a glacial moraine.

The substructure of the Chicago plain and moraine is solid rock whose surface varies from 124 feet below to 110 feet above lake level. The drift which covers the rock varies from 0-130

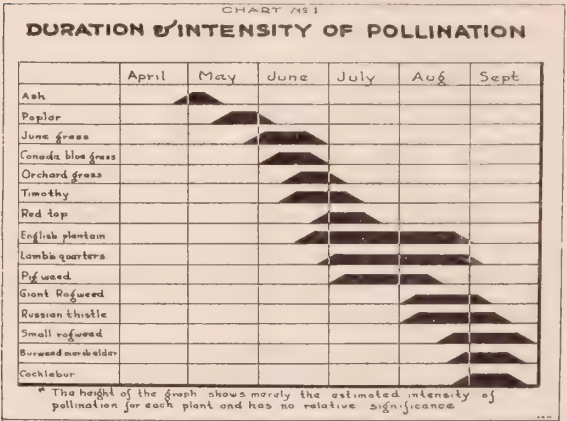
*Mounted specimens of the common offending plants were exhibited at a meeting of the Institute of Medicine in Chicago, April, 1925.

†This work was aided by a grant from the Fenger Memorial Fund.

‡From the John McCormick Institute for Infectious Diseases, Chicago.

feet in the plain and averages 150 feet in the morainic belt.

Conditions here then are such that three types of topographic and soil areas are represented and their associated vegetations are as follows: (a) moranic deposits chiefly boulder clay, with mesophytic upland forests, (b) the Chicago plain which represents the area covered by the



glacial Lake Chicago with its hydrophytic lakes and swamps and its mesophytic prairies, and (c) beach and dune sands with its xerophytic forests. The second of these with its swamps and prairies is the most important as it offers a wide range of vegetative possibilities.

In addition to the topographic and soil factors which are constant, there are the following very important variable influences which, from the "hay fever" point of view, have a marked effect

spheric pollen content while cloudy rainy days, low temperatures, and lack of winds have the opposite effect. Thus one season or a part of a season may be particularly favorable or unfavorable for the production and distribution of pollens and as a result clinical symptoms are severe or light. Specific examples are taken from the data in tables I-V. In August and September, 1924, the precipitation was almost twice the average, the monthly mean temperature, the percentage of possible sunshine, and the wind velocity all less than the average. On the other hand in the same months of 1925 the precipitation, sunshine and wind velocity were about the average, and the monthly mean temperature above the average. These data indicate that the 1925 season was more favorable for the production and distribution of pollen than the 1924 season and this is corroborated by clinical and field observations. Although moderately high temperatures favor plant growth excessive heat at critical stages of development may be harmful. In May and early June, 1925, the precipitation was about one-half the average, the monthly mean temperature about average, the percentage of possible sunshine above average and the absolute maximum temperature the highest for years. This combination of circumstances resulted in great damage to the buds of flowering grasses and a light crop of pollen from June grass, orchard grass and timothy was produced. Later in June and in July conditions were more favorable and pollen from red-top

TABLE I
Precipitation in Inches. Chicago

	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1920	1.11	0.13	4.57	4.71	1.81	3.94	1.61	3.16	3.35	1.57	.92	3.33	30.21
1921	0.97	0.38	4.00	4.47	0.80	1.57	1.87	4.92	5.72	3.26	3.51	4.63	36.10
1922	1.16	0.74	5.58	3.70	3.18	0.12	4.00	1.45	4.37	3.40	2.66	1.21	31.57
1923	0.92	1.05	3.05	1.38	3.46	1.70	2.67	7.76	2.50	4.57	1.46	1.96	32.48
1924	1.32	1.68	3.70	0.84	2.30	6.60	3.68	8.12	3.14	0.84	0.86	1.90	34.96
1925	0.68	1.62	1.51	3.15	1.59	4.53	2.47	2.09	3.19				
Average	2.00	2.16	2.55	2.88	3.37	3.66	3.64	2.88	3.02	2.55	2.50	2.07	33.28

on the vegetation. These are precipitation, temperature, sunshine, and direction and velocity of wind. These influences govern to a great extent not only the development of pollen but, of equal importance, its distribution. Favorable precipitation, temperature, sunshine and winds in proper season result in a high atmos-

was abundant. Field studies showed that the atmospheric pollen content was relatively small the first part of the season and heavier from June 20 until July 15 and clinically, symptoms were light until June 20 and much more severe after that date. These observations show the necessity of ac-

curate knowledge of each season's production and distribution of pollen before attempting to interpret the results of any form of treatment for the relief of "hay fever." As this has not been commonly done both clinicians and their

ing April. Because of Chicago's location on the west shore of Lake Michigan the wind direction exerts a unique influence on atmospheric pollen content. During times when the wind is from an easterly direction the atmosphere in all sec-

TABLE II
Wind*†

	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1920	NW 13.5	NW 11.8	S 16.7	NE 14.9	NE 11.3	N 11.1	W 9.6	NE 8.5	NW 11.6	SW 11.0	NW 11.7	W 14.2
	38 NE 23	34 NE 3	49 S 15	48 SW 2	21 S 17	38 W 1	44 W 23	31 SW 20	35 S 15	40 S 15	31 W 4	48 W 14
1921	W 13.6	W 12.7	S 14.1	S 15.3	N 12.0	NE 9.3	SW 9.6	NE 10.1	SW 10.7	SW 14.0	NW 12.6	NW 13.4
	37 W 2	50 W 6	39 S 26	56 NE 16	38 W 13	30 N 3	40 W 7	33 S 19	39 W 21	60 S 17	44 NW 8	50 SW 31
1922	SW 30.0	W 14.2	N 14.7	N 12.7	S 9.8	N 10.3	NE 9.7	S 8.7	SW 9.4	NW 11.5	W 13.5	W 12.7
	42 SW 4	47 SW 23	49 SE 6	54 W 19	30 S 6	35 W 10	38 S 9	48 NW 24	26 N 24	33 S 13	44 SW 30	36 S 11
1923	W 12.3	W 12.1	NW 14.6	NE 13.1	NE 12.2	SW 10.0	E 8.3	NE 9.4	S 9.5	NW 9.8	NW 11.6	W 12.8
	42 S 17	46 W 14	60 NE 11	48 S 21	36 S 19	30 W 7	24 NW 6	45 NW 11	30 S 1	37 S 17	32 S 20	38 W 27
1924	W 12.6	NW 12.5	N 11.7	W 11.0	W 10.5	N 9.6	NE 9.2	S 9.9	NE 11.0	S 11.5	W 14.1	W 12.8
	35 SW 22	45 NE 4	40 W 7	37 NW 7	38 S 23	38 NE 8	32 NW 24	54 S 8	35 W 21	42 S 30	39 SW 5	34 W 8
1925	W 10.6	S 12.0	N 13.5	N 11.7	N 10.3	W 11.3	N 8.9	E 7.7	E 10.2			
	33 S 6	40 S 20	42 S 20	37 NE 19	38 NE 24	44 S 12	33 NW 6	24 N 26	35 W 11			

*1st line. Prevailing direction and average hour velocity.
†2nd line. Maximum velocity, direction and date.

patients have often allowed themselves to become over-optimistic one season because of apparent good results obtained from treatment, and over-pessimistic the next season because of poor results obtained with the same treatment. Discouragement and skepticism naturally follow and these hinder advances in knowledge.

Although all other conditions may be most favorable for plant development, the severity of "hay fever" symptoms in the Chicago district especially, depends to a great degree on the direction and velocity of the wind. From March to June the prevailing direction is from the

tions near the lake is relatively free from pollen and as one goes inland the content gradually increases but for miles does not reach the concentration found on days when a high wind blows from a westerly direction. This explains the clinical observation that symptoms are absent or greatly diminished on days when the wind is from the lake and are increased when it blows toward the lake. Due to the predominance of easterly winds from March to June and the large component from the east from June to October Chicago offers at least one great advantage to "hay fever" sufferers who are unable to go to

TABLE III
Sunshine. Percentage of Hours Possible. Chicago

	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1920	48	44	63	50	75	75	78	72	71	69	45	44
1921	57	38	49	62	70	69	88	72	70	62	35	33
1922	73	56	49	59	65	82	75	75	70	71	30	44
1923	44	47	55	61	69	73	75	64	60	61	48	47
1924	59	41	31	57	62	68	76	62	63	84	58	49
1925	48	51	71	64	70	73	68	75	57			

northeast and from June to March from the southwest to west, but from June to October there is a large component from the northeast. At the same latitude in Davenport, Iowa, the prevailing wind is from the northeast only dur-

pollen free sections. The wind velocity also is very important as pollens which are carried only a few yards by a 10 mile wind may be carried miles by the common Chicago gales.

Although soil and environmental influences

TABLE IV
Temperature. Absolute Maximum and Date

	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1920	38 29	49 2	73 31	73 22	82 31	95 28	98 23	90 5	90 21	82 10	64 20	62 3
1921	56 21	66 15	78 19	81 24	93 24	95 17	97 17	91 19	88 1	79 17	65 17	57 1
1922	52 4	68 22	66 25	74 9	83 30	95 16	93 9	92 17	98 2	87 5	66 5	58 1
1923	49 18	44 26	65 2	79 20	79 14	96 25	95 10	89 14	80 27	86 12	62 10	53 18
1924	48 9	44 27	63 27	76 24	84 5	94 19	91 28	92 5	90 21	81 19	75 5	56 8
1925	44 31	62 8	76 26	86 23	94 22	96 5	98 3	96 30	95 5			

largely determine the flora, in "hay fever" work it is necessary to have accurate knowledge of the distribution and habits of the suspected plants. In order to get this information frequent observations were made in many parts of this territory, especial attention being paid to the presence, distribution and flowering season of the anemophilous or wind-pollinated plants and of the popularly suspected insect-pollinated plants. However, it must be remembered that the pollens from some anemophilous plants are of no im-

many insect-pollinated plants cause typical symptoms and give positive skin-reactions but are not of great importance as the pollen is gotten only by direct contact or within a radius of a few feet from the plant on very windy days. In this work the actual presence of pollen in the air was determined by the examination of atmospheric pollen plates which were exposed daily in favorable locations about the city. The differentiation of pollens and the distinction of pollens from other formed material

TABLE V
Temperature Monthly Mean. Chicago

	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1920	18.8	25.8	40.2	43.0	55.4	69.1	71.5	71.0	69.0	61.9	40.2	32.4
1921	32.4	33.4	45.8	54.2	61.7	73.8	81.2	72.8	70.0	54.8	40.8	32.5
1922	24.8	29.4	39.4	48.7	63.8	70.8	73.3	73.2	69.5	57.6	44.6	29.9
1923	30.8	22.3	33.0	46.6	54.4	70.8	74.4	70.8	65.1	52.5	43.8	39.7
1924	19.8	28.8	43.6	49.0	54.4	64.5	70.2	71.0	60.3	59.8	41.5	23.4
1925	25.9	32.2	39.7	52.6	54.7	71.8	73.0	76.6	72.2			

portance, often being found abundantly in the air and on exposure giving neither characteristic symptoms of "hay fever" nor positive skin-reactions. On the other hand pollens from

such as smut spores, which often resemble them in size and shape, were made microscopically. The names of the most important plants found, grouped in families and with their common

TABLE VI
Most Important Hay-fever Plants

Family	Scientific Name	Popular Name	Size of Pollen	Quantity of Pollen	Habitat
Tree	<i>Fraxinus americana</i>	Ash	26 microns	+	Parks, roadsides.
	<i>Populus grandidentata</i>	Poplar	30 microns	+	Parks, roadsides.
	<i>Populus tremuloides</i>	Poplar	30 microns	+	Parks, roadsides.
Grass	<i>Poa pratensis</i>	June grass or Ky. blue grass	30 microns	+++	Lawns, pastures, roadsides, golf courses vacant lots.
	<i>Poa compressa</i>	Canada blue grass	30 microns	++	Lawns, roadsides, rich wastes.
	<i>Phelum pratense</i>	Timothy	40 microns	+++	Meadows, pastures, roadsides, and vacant lots.
	<i>Agrostis alba</i>	Redtop	30 microns	+++	Fields, golf courses, roadsides, and vacant lots.
Amaranth	<i>Dactylis glomerata</i>	Orchard grass	35 microns	+++	Shaded moist roadsides, vacant lots.
	<i>Amaranthus retroflexus</i>	Pigweed redroot	25 microns	++	Fertile waste fields and lots.
Chemopod	<i>Chemopodium album</i>	Lamb's quarters	20 microns	+++	Vacant lots and wastes.
	<i>Salsola pestifer</i>	Russian thistle	18 microns	+	Sandy wastes and vacant lots.
Plantain	<i>Plantago lanceolata</i>	Buckhorn or English plantain	25 microns	+	Lawns, roadsides.
Ambrosia	<i>Ambrosia elatior</i>	Small ragweed	17 microns	++++	Roadsides, fields and vacant lots.
	<i>Ambrosia trifida</i>	Giant ragweed	18 microns	++++	Along fence rows, ditches and in vacant lots.
	<i>Iva xanthifolia</i>	Burweed marsh elder	14-18 microns	++++	Roadsides, wastes and vacant lots.
	<i>Xanthium</i> spp.	Cocklebur	28 microns	++	Roadsides, fields and vacant lots.

habitat, are given in Table VI. The less important in each family are given in Table VII. It

TABLE VII
Other Hay-fever Plants

Trees	Scientific Name	Popular Name
	<i>Alnus glutinosa</i>	Alder
	<i>Betula alba</i>	Birch
	<i>Acer negundo</i>	Box-elder
	<i>Populus deltoides</i>	Cottonwood
	<i>Ulmus americana</i>	Elm
	<i>Celtis occidentalis</i>	Hackberry
	<i>Corylus americana</i>	Hazelnut
	<i>Corya</i> spp.	Hickory
	<i>Ostrya virginiana</i>	Ironwood
	<i>Acer rubrum</i>	Maple Hard
	<i>Acer saccharum</i>	Maple Soft
	<i>Juniperus communis</i>	Mountain cedar
	<i>Quercus</i> spp.	Oak
	<i>Pinus</i> spp.	Pine
	<i>Plantanus occidentalis</i>	Sycamore
	<i>Juglans nigra</i>	Walnut black
	<i>Salix</i> spp.	Willow
Grasses	<i>Poa annua</i>	Annual blue grass
	<i>Anthoxanthum odoratum</i>	Sweet vernal grass
	<i>Agropyron repens</i>	Quack grass
	<i>Panicum</i> spp.	Panic grass
	<i>Echinochloa crus-galli</i>	Barnyard grass
	<i>Digitaria sanguinalis</i>	Crab-grass
	<i>Sudropogon</i> spp.	Beard grass or blue stem
	<i>Lolium perenne</i>	Perennial rye grass
	<i>Bromus tectorum</i>	Brome grass
	<i>Chaetochloa</i> spp.	Fox tail
	<i>Festuca elatior</i>	Fescue grass
	<i>Hordeum jubatum</i>	Squirrel-tail grass
	<i>Elmyus canadensis</i>	Wild rye
	<i>Scirpus cyperinus</i>	Sedge or wool grass
	<i>Scirpus lineatus</i>	Sedge or wool grass
	<i>Zea mays</i>	Corn
	<i>Secale cereale</i>	Rye
	<i>Triticum sativum</i>	Wheat
	<i>Avena sativa</i>	Oats
Amaranth	<i>Amaranthus albus palmeri</i>	Careless weed
	<i>Amaranthus graecizans</i>	Tumbleweed
	<i>Amaranthus spinosus</i>	Spiny amaranth
	<i>Achida tamariscina</i>	Water hemp
Chenopods	<i>Cycloloma artplicifolium</i>	Tumbling pig-weed
	<i>Chenopodium ambrosioides</i>	Wormseed (Mexican tea)
	<i>Chenopodium hybridum</i>	Wormseed
	<i>Kochia scoparia</i>	Burning bush
	<i>Artiplex hostaba</i>	Orache
Plantain	<i>Plantago rugelii</i>	Common plantain
Ambrosias	<i>Ambrosia psilostachya</i>	Western ragweed
	<i>Iva ciliata</i>	Marsh elder
	<i>Franseria acanthacarpa</i>	False ragweed
Artemesias	<i>Artemesia biennis</i>	Wormwood biennial
	<i>Artemesia caudata</i>	Wormwood tall
	<i>Artemesia canadensis</i>	Wormwood
	<i>Artemesia vulgaris</i>	Mugwort
	<i>Artemesia absinthium</i>	Wormwood
	<i>Artemesia annua</i>	Wormwood
	<i>Artemesia dracunculoides</i>	Wormwood Indian
	<i>Artemesia gnaphaloides</i>	Prairie sage
Rumexes	<i>Rumex acetosella</i>	Sheep sorrel
	<i>Rumex crispus</i>	Yellow dock
	<i>Rumex obtusifolia</i>	Bitter dock
	<i>Fagopyrum esculentum</i>	Buckwheat
Leguminosae	<i>Medicago sativa</i>	Alfalfa
	<i>Trifolium pratense</i>	Clover, red
	<i>Trifolium repens</i>	Clover, white
	<i>Melilotus alba</i>	Sweet clover
Other plants unclassified	<i>Leontodon taraxacum</i>	Dandelion
	<i>Salidago</i> spp.	Goldenrod
	<i>Helianthus</i> spp.	Sunflower
	<i>Rudbeckia laciniata</i>	Goldenglow
	<i>Rudbeckia hirta</i>	Yellow daisy
	<i>Vernonia</i> spp.	Ironweed
	<i>Eupatorium</i> spp.	Joe pye weed
	<i>Urtica gracilis</i>	Nettle
	<i>Cannabis sativa</i>	Hemp
	<i>Humulus japonica</i>	Japanese hop
	<i>Typha latifolia</i>	Cat-tail
	<i>Typha angustifolia</i>	Cat-tail
	<i>Helenium autumnale</i>	Sneezeweed
	<i>Thalictrum</i> spp.	Meadow rue

was noted that climatic influences caused yearly variations of from 5-10 days in development and that sections inland were from 3-7 days ahead of sections bordering the lake. Chart I shows graphically the duration and intensity of pollen-production from the most important plants. The height of the graph shows merely the estimated intensity for each plant and has no relative significance.

The distribution of different plants varied greatly. In some sections poplars, maples or oaks were abundant. June grass, timothy, red-top and small ragweed were widely scattered, while in certain sections orchard-grass, Canada blue grass, pig-weed, giant ragweed, lamb's quarters, burweed marsh elder, or cockle bur predominated. The burweed marsh elder (*iva xanthifolia*) is invading the city from all sides and unless prevented will soon rival the ragweeds in importance. The Russian thistle and English plantain flourish in certain sections.

Note.—I wish to thank Dr. George Fuller of the University of Chicago and Dr. H. S. Pepoon of the Lake View High School for assistance in this work.

CONCLUSIONS

1. The geographical position, topography and environmental influences of the Chicago territory determine to a large degree the species, production and distribution of its pollen.

2. The daily and seasonal variations in severity of symptoms in untreated "hay fever" subjects are explained by variations in such climatic influences as precipitation, temperature, sunshine, and direction and velocity of winds.

3. Clinical and field observations show that the most important offending plants for this territory are June grass, orchard grass, timothy, red-top, large ragweed, small ragweed and burweed marsh elder.

4. Other less important plants which cannot be neglected are Canada bluegrass, cockle bur, lamb's quarters, pigweed, Russian thistle and English plantain.

5. The soft maple, ash, poplar, oak and willow may cause symptoms for a few days in a small percentage of patients.

6. The seasonal variation in production and distribution of pollen must be considered when

*This list includes only those plants that are found in sufficient numbers to be of importance. Thus only 24 of the 160 grasses found here are recorded. For a complete list of all plants see H. S. Pepoon's book, *The Flora of the Chicago Area*. (10)

interpreting the clinical results of prophylactic treatment.

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ORAL MYCOSIS WITH REPORT OF CASE.*

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During the last few decades we have all seen the remarkable development of our knowledge of bacteria to its present state. There has not been a comparable advance in our knowledge of the etiological significance of yeasts and molds or of the processes by which they produce pathologic conditions. This in spite of the fact that the fungi of favus and thrush were the first two pathogenic organism to be discovered.

The variability in morphology under different conditions; the lack of systemic reaction; the lack of toxin formation and the lack of recognition of formation of antibodies with few exceptions and many other factors have all contributed to our imperfect study and knowledge of fungi both from an etiologic and a therapeutic standpoint.

Many of our fungus diseases are thoroughly known and familiar to all of us, blastomycosis, actinomycosis, and ringworm being outstanding examples. The question that demands serious and intelligent study today is the etiologic significance and biology of fungi that are frequently found in studies of various pathological conditions and a proper classification of these fungi from a disease producing standpoint.

The only present satisfactory classification is the botanical one based upon ascus spore formation and this distinguishing characteristic may

be so modified by disease conditions and methods of study that it is of no clinical value. It is only pertinent in this brief case report to say that so far as we know all fungi pathogenic to man belong to one of two main divisions, the Eumycetes which are subdivided into four classes and the class Hyphomycetes which belongs the genus *Leptothrix*.

The leptothrix are simple non spore forming unbranched threads frequently found in stomatitis and other oral disorders and their true etiologic importance whether individual or symbiotic, or of no importance is still a disputed question.

The case here reported presents three distinct pathological conditions each with highly distinguishing features in all of which the leptothrix was proven to be apparently the only etiologic organism.

Case Report. Mrs. H. Age 48, American, a business executive and living a carefully supervised life because of abnormally increased blood pressure developed an acute tonsillar infection on Dec. 17, 1923. The case demanded full attention because of the rather severe systemic reaction and the amount of thick grey colored membrane on both tonsils. There was marked inflammatory reaction in the entire pharynx, but membrane was present only on the tonsils. Cultures were negative for diphtheria. Smears were negative for Vincent's angina, positive for ordinary throat organisms and showed in profusion a thread-like non-branching fungus. The preponderance of this fungus was recalled five days later when preparing to drain a peritonsillar abscess which had developed on the right side. The pus from this abscess was unusual in character, being extremely thick, brownish yellow in color and extremely malodorous. Cultures which were taken with care to avoid oral contamination were sterile of bacterial growth, but, after many days, incubation at room temperature showed the same fungus that had been recognized in the original smears. This suppurative stage was accompanied by most grave systemic symptoms. The local condition was entirely different from the usual quinsy. Induration was extreme, extending over the hard palate nearly to the incisor teeth and the abscess cavity did not finally heal until about Feb. 1, 1924.

During the second week of February the third type of pathology developed, this being a typical mould growth covering the posterior half of the tongue and at times extending well onto the anterior portion. The growth was brownish yellow in color, at times very dense and fully one-fourth inch in elevation above the tongue surface. Growth teased off with tissue forceps proved to be the same leptothrix already described. After a variety of treatments, extending over several weeks, the infection was finally killed by daily application of 25 per cent. silver nitrate solution. Iodine was of no value.

*Read before section on Medicine, Quincy meeting of the Illinois State Medical Society, May 19, 1925.

In October, 1924, the tonsils were removed, under local anesthesia, by Dr. D. M. Keith. The right tonsil was extremely sclerotic and adherent. Cultures from the tonsillar tissues were negative for fungi, but sections stained by Dr. Henrietta Calhoun of Rockford Hospital, by whom all laboratory work was done, showed the thread-like, non-branching, non-spore forming fungus still present in the deep tonsillar tissue.

To recapitulate, we have three distinct pathological conditions, acute membranous tonsillitis, peritonsillar abscess and fungus growth on the tongue all occurring in sequence within a period of seven weeks. A leptothrix was present in all conditions and in two was apparently the only microorganism present. This same leptothrix was present in tissue sections ten months after the original infection.

DISCUSSION

Dr. John E. Tuite, Rockford: I feel that Dr. Day has brought to our attention a certain type of invasions that we are too prone to regard as non-pathogenic. Our attitude in this matter has probably been influenced by the fact that most of them are non-pathogenic under ordinary conditions. It is rather under the extraordinary conditions that these invasions produce pathology.

Dr. Smith of Harvard, in his study of Manila psilosis as the cause of tropical sprue, found that his animals were not all susceptible to invasions by this organism until their resistance was reduced by improper or insufficient or unbalanced diet, etc. On bringing about this condition the animals were susceptible.

It was Ashford who pointed out that tropical sprew is not necessarily a tropic disease; that under these same conditions we might have this disease elsewhere.

Woods, I believe it was, called our attention to the fact that the anemia, and there is always a severe anemia in these diseases, resembled pernicious anemia and cannot be differentiated.

It seems to me that this whole subject opens up an entirely new field and one which should receive more attention.

There came under my observation, indirectly, a case within the last year of a man who was seized with a sudden severe pain in one ear. He had to go to a hospital. In 14 hours the ear drum ruptured and pure streptothrix was found. Then the other ear started to give trouble and in 14 hours more that ruptured with the same finding.

Within, I believe, 24 hours, or maybe less, he developed some trouble with the mastoid, with the bubbles of air. Then he was given large doses of iodine and immediately improved. He discontinued the iodine and his trouble returned only to disappear under iodine up to saturation.

It is gratifying to know that we do get results, notwithstanding Dr. Day's unsatisfactory experience in this case with the use of iodine. Dr. Day, I believe, used his iodine locally and not systemically. I believe systemically you do get results. This whole field, it seems to me, is full of possibilities and we should be deeply indebted to Dr. Day.

IS MALARIA AN ETIOLOGIC FACTOR IN IRITIS? *

R. C. MATHENY, M.D.,
GALESBURG, ILL.

About five years ago a young woman about twenty years of age consulted me concerning an affection of her left eye. The general findings were such as to lead me to make a diagnosis of iritis. Most of the important symptoms of iritis were present, with the exception of adhesions. I was unable to determine the original source of infection; there had been no recent disease of the nasal accessory sinuses, nor was I able to demonstrate their presence; neither had there been any tonsillitis nor other local inflammatory trouble that might have been the original source of infection. I treated the case by instilling atropin and prescribing sodium salicylate. In a few days the symptoms had entirely disappeared and I thought the case had made a complete recovery. But within a very short while she consulted me again with all of the original symptoms present and the affection went through the same course as on the first occasion. Under similar treatment all symptoms disappeared within four or five days. She came back, however, the third time with all of the symptoms as before, but this time the periodicity of the disease suggested malaria and beside the instillation of atropin nothing was done excepting to prescribe quinine, which the patient took for four days, when all of the symptoms disappeared and never returned.

About one month afterwards another case, a man about thirty-five years of age, consulted me with what I diagnosed as iritis. Ordinary treatment was instituted and in about a week symptoms had disappeared. He returned, however, after a few days with all symptoms of iritis again present. Remembering the other case which yielded to quinine, I thought perhaps this might also be of a similar nature and I had a blood examination made to determine the presence of malarial plasmodia. Whether or not the laboratory technique was faulty, we did not find any of the plasmodia present. No other internal medicine except quinine was given. He never had a recurrence.

On April 9, 1924, Mrs. J. J. T., aged 40, con-

*Read before the Quincy meeting of the Illinois State Medical Society, May 20, 1925. Section on Eye, Ear, Nose and Throat.

sulted me about an infection of her left eye. The conjunctiva was deeply injected and both eyelids slightly edematous. She complained of considerable pain. On the cornea of the left eye there had developed a small phlyctenular ulcer. This case was kept under treatment from April 9, 1924, until May 19, 1924. The symptoms never at any time completely disappeared, but there were marked exacerbations about once every eight days. I had suspected that this case was limited strictly to the conjunctiva and had not employed atropin, but on this date atropin was instilled and examination of the cornea revealed small, very minute deposits upon its posterior surface. Not having been able to demonstrate any nasal accessory disease nor locate any focus which I believed to be the cause of her trouble, quinine was administered. Improvement immediately began and the case progressed to complete recovery with never any recurrence. I had one other case which presented somewhat similar symptoms and with the same result.

The periodicity of the symptoms in all of these cases and the fact that they made complete recovery from the administration of quinine naturally leads one to suspect that malaria was an etiologic factor in all of these cases. In only one of these cases was there any real effort made to determine malarial plasmodia, and the result of this was negative. This, of course, does not mean much one way or another.

I have not been able to find much definite data regarding malaria as the cause of iritis. Many of the text-books refer to it in a general way as a possible factor, but such references are of little importance. I have tried to find records of cases that might be of positive value.

In the proceedings of the French Ophthalmological Society of 1899 there is a report of a case of a woman, 48 years of age, who had been received into the medical ward of a hospital for bronchitis of 2½ years' standing. This woman had a daily rise of temperature, but no evidence of tuberculosis could be found. The left pupil was permanently contracted. The woman gave the following history:

At the age of 19 she lived in a neighborhood that was characterized by an outbreak of malaria and she suffered from an intermittent fever for several months, which finally yielded to quinine, and during this time she suffered from an in-

flammatory affection of the right eye. Five or six years afterward she went through the same experience when the left eye was affected. The right eye was a seat of permanent contraction of the pupil due to posterior synechiæ. The left pupil was free, but inspection of the lens showed unmistakable evidence of a former synechia.

In the Westminster Hospital Reports of 1901, volume 11, page 83, Dr. Arthur T. W. White offers some notes on malarial cases which are of considerable interest. He dwells upon the fallacy of ascribing various lesions in malarial subjects to the activities of the plasmodium when other plausible causes are ignored. Thus, if a malarial subject is taking arsenic, we cannot be sure that a peripheral neuritis which may supervene is not due to arsenic instead of the disease. The author gives a case of such neuritis, carelessly attributed to malaria, although the patient, who did not respond to quinine, had been using arsenic instead. However, he reports three cases of supposed malarial iritis, although in two of them there had been no microscopic examination of blood. But in the third case a positive blood examination was made and the other two duplicated the third so completely that a blood test was regarded as not necessary for diagnosis. He knows of but few cases in literature and in some of these the diagnosis was not properly made and rheumatism and syphilis were not excluded. This is most surprising, because in the other affections of the eye—keratitis, optic neuritis—the malarial causation had been completely established.

The first patient was a Soudanese, known to have suffered from blackwater fever, seen in July, 1899. He was suffering from severe photophobia, with dilated, fixed and discolored pupil. There was no history of syphilis. The attack had come on suddenly in the evening after target practice in a hot sun and severe glare. Only two days before the patient had been discharged from the hospital, where he had been interned for malaria of quotidian type with enlarged spleen. The omission of the microscopic examination was not due to neglect but external causes beyond control. He was first given atropin and hot fomentation, but, no relief ensuing, he was given sodium salicylate. Pain was very severe. After eight days of resistance to treatment the possibility of malarial iritis was

suggested and quinine administered. The relief was marked; within a week the severe pain and photophobia had cleared up, leaving behind a few anterior synechiæ.

The second case also occurred in a Soudanese soldier, first seen in July, 1898, when he complained of severe pain in both eyes. This case was treated with atropin and hot fomentation and the symptoms continued for over a week. The patient was given quinine in large doses and was practically well in three days.

The third case occurred in an Englishman, seen on the bank of the Victoria Nyanza lake in 1899. Both eyes very painful with iris adhesions. Atropin and hot compresses gave some relief. Apparently little or no quinine was available. After three days of slight improvement he was seized with a severe malarial fever. Quinine being administered gave improvement both in general condition and in the eyes. In this case the malarial plasmodia were found in abundance.

In *American Medicine*, 1902, volume 3, page 228, Dr. S. D. Jacobson gives the following report:

A Russian woman, aged 22, came to the United States in 1889. She was never out of New York since arrival except as stated below. In August, 1901, she went to Greenport, L. I., where the mosquitoes were very abundant and troublesome. She was bitten freely. She returned to New York early in September. About four weeks after her first exposure she was taken ill with fever preceded by chills. The author found her suffering, incidentally, from a mild bilateral iritis. At the onset only the right eye suffered, but the left became involved after the first visit. She was evidently treated for rheumatism with phenacetin and salol and after the doses were increased she seemed to improve. This was on the fourth day. A feature of the attack was the degree of pain in the eyes, which caused total insomnia. On the following day there occurred a relapse of the fever and eye pain. An ophthalmologist was called in and found posterior synchiæ had formed. Atropin was used, but with very little benefit. For the next three days conditions were very far from satisfactory. Rheumatism and syphilis having been excluded, the author now thought of malaria, and a blood examination revealed the presence of the tertiary malarial parasite. The patient was now placed

on large doses of quinine, 15 grains every 5 hours, and in three days was completely cured.

While I believe that my own experience and these cases reported justify the conclusion that malaria is at times the cause of iritis, I find certain criticisms of that opinion.

In the *British Medical Journal* of July 1, 1918, Dr. Kirk says that he had practiced ophthalmology for 20 years in Southeastern Asia, where malaria is very rife, and in the recent war he spent 8 months in the Island of Malta, where he was in close touch with soldiers invalided for malaria. In all of these experiences he never saw a case that he was willing to diagnose as malarial iritis. In the tropics there are countries that are saturated with malaria and others which are only slightly infested; but Dr. Kirk never could see that there was more iritis in the former than in the latter. He cannot visualize the parasite of the disease attacking the tissues of the eye directly and does not see how there could be a malarial iritis, cyclitis or choroiditis or affection of the media. On the other hand, the malarial virus is known to attack nervous substance, and so he believes in the existence of malarial optic neuroretinitis and retrobulbar neuritis; malarial keratitis from nerve influence, and malarial ophthalmoplegias and neuralgias.

He is aware that in the southern United States the claim is made that at least 10 per cent. of malarial victims have ocular lesions, but he is still unable to understand this claim and evidently believes that much of this fraction cannot really be due to malaria.

In *Ophthalmic Record*, March, 1917, San Fernandez, who practiced a lifetime in Havana, merely mentions iritis as one of the ocular lesions of malaria (based on personal observation). The paper is devoted largely to proving that some of the severe ocular lesions and blindness were really due to quinine given in large doses.

Notwithstanding these adverse criticisms, I still believe that malaria can be the cause of iritis and that the four cases under my own observation were due to that cause.

DISCUSSION

Dr. A. L. Adams, Jacksonville: I think it is opportune that Dr. Matheny should bring this subject before us. It might more frequently be brought to our minds that malaria should be considered as a cause of iritis. Personally I never have been able to make a diagnosis

of malaria as the cause of iritis with any definiteness. I have never been able to find the plasmodium, and, until that is done, it seems to me that we are not in a position to be absolutely certain of the diagnosis.

In looking up the subject, I find in Strumpell's Practice of Medicine no mention is made of iritis being a complication of malaria, neither do I find any in Osler's, although the latter refers to iritis as a complication in gonococcus infection, gout, congenital syphilis, syphilis, influenza and smallpox.

Dieulafoy, in his Practice of Medicine, refers to a form of malaria which he calls "larval malaria." Iritis of malarial origin would be of this kind. A larval disease is one which assumes the appearance of another disease with which it has little or no analogy.

In this condition it assumes the form of neuralgia, of a flux or a neurosis. The characteristic thing about it is the periodicity of the symptoms and also an absence of fever.

The most common form of the larval malaria is involvement of the fifth nerve. It may also affect the occipital, intercostal and sciatic nerve. We may also have neuralgia of the breast, stomach, intestines and heart. Larval fever is shown in some cases by congestion or hemorrhage as in coryza, tonsillitis, urticaria, partial or extensive edema, intermittent diarrhea, arthralgic pains, epistaxis, purpura and perhaps the awakening of the rheumatic diathesis.

Among the neuroses seen in this form of larval fever are spasmodic cough, pseudo-asthmatic dyspnea, migraine and hiccough.

Fuchs, in his text-book says, "Iritis only exceptionally follows intermittent fever," and there is no further mention of the subject.

The etiology of iritis and irido-cyclitis has been a most interesting question before us for years, and more or less effort has been made to solve the problem, but not with any great degree of success.

The American Academy of Ophthalmology and Oto-Laryngology a few years ago appointed a committee to investigate the subject. The last report of this committee was made by Dr. Wm. Finhoff, Dr. John Green, Jr., and Dr. Wm. N. Benedict in 1921. The method followed by this committee was to obtain the assistance of a large number of ophthalmologists to whom were sent printed syllabi or questionnaires covering the personal and family history, description and symptoms, laboratory investigation, treatment, etc., which furnished to assist in carrying out a thorough and uniform search for the cause of iritis and irido-cyclitis.

The committee believe that the records would be of little value unless all known factors which might produce iritis and irido-cyclitis had been searched for.

In the last two years in which the committee has functioned 92 cases were collected and classified as follows:

Focal infection (teeth).....	26
Focal infection (tonsils).....	13
Autointoxication	29
Syphilis	14

Gonorrhea	3
Sympathetic ophthalmia	2

You will notice that 39 of the cases were due to focal infection and 29 to autointoxication. Eight cases were proven to be due to focal infection by reproducing the disease in animals, after inoculation of infected material obtained from the cause of the focus. About 90 per cent. of the syllabi received by the committee were incomplete.

While there is no mention made here of malaria as a cause of iritis, I feel that that is no reason for rejecting it as a cause, as the number of cases reported on is so small and over 5 per cent. was undetermined as to its cause.

I am sure we are grateful to Dr. Matheny for reminding us of malaria as a factor to be reckoned with as a cause of iritis, even though it is rarely the cause.

Dr. Chas. M. Robertson, Chicago: When I was in Texas during the war there was a doctor in San Antonio who had some dozen or more cases in which the plasmodium was found.

Dr. Matheny, in response: I haven't anything further to say except that I put this in the form of a question. I do not know whether it is due to malaria or not and I put it in the form of a question, hoping really to find out. But the satisfactory part of it was that the cases got well under quinine, which was simply suggested, and led me to read this paper.

PUBLIC HEALTH WORK AS VIEWED BY ONE IN GENERAL PRACTICE THE LAST QUARTER OF A CENTURY*

JAS. S. TEMPLETON,
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In the year of 1900 we heard little of public health, and, in fact, we did not have a Department of Health. The Board of Health was functioning as such, in a way, according to the light we had. There was an occasional quarantine of smallpox and very seldom one of scarlet fever. I well remember the first family I treated for scarlatina, and afterward a case of scarlet fever developed in the same home. I told them to keep other children out and followed the same lines of quarantine as other physicians in the locality were doing. Not a report of any kind was made to anyone; in fact, there was no one authorized to look after such things. These same lines were followed in regard to contagious diseases for several years before the Profession began to see the light. When some did see the folly of such treatment, they were maligned and abused for expressing

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their opinions, or especially if they were insistent on such methods of quarantine as would safeguard their communities from epidemics of contagious disease.

It was the law of the time to report births, but few were they who obeyed it. In looking over birth records for the last twenty-five years you would think that the increase of births in the last half of that time was wonderful. We must say that the wide awake physicians of today seldom neglect to have all births recorded; though they may be a little tardy, the record is made.

About all the fellow who hung out his shingle twenty-five or thirty years ago knew about health work was what he obtained by his general knowledge of diseases; and he knew there was a State Board of Health to be reckoned with when he registered to practice.

Twenty years ago many of the Profession were talking about malaria running into typhoid fever and we *actually thought* that a dose of calomel would break up the disease if taken soon after it was contracted. *Two thousand* people in the State of Illinois were dying annually from this disease at that time, and the fact in Nineteen Twenty-three only a few more than three hundred died, is *prima facie* evidence that great strides have been made in the prevention of disease. In other words, the progress in Public Health Work is incontrovertible. We must all admit that much.

It is not only so *with typhoid*, but with *every other contagious disease*. The natural trend, with increased population and many more congested areas than previously existed, to contend with, would be upward rather than downward. Yet the death rate of tuberculosis, diphtheria, scarlet fever and practically every contagious disease is *decreasing* instead of *increasing*. *So much for the progress in Health Work*.

The same diseases confront us today, and if we do not continue with the same zeal, there is no question but that there will be an increase in deaths during the next score of years rather than a continued decrease of the same.

We know there are carriers of typhoid, scarlet fever, diphtheria and many other contagious diseases; that during this post-war period poverty and other conditions will encourage the spread of disease; that the automobile and every modern device that increases travel and contact with other

neighborhoods will assist in spreading of contagion. Smallpox has become so little thought of that even the *medical profession has almost ceased to recommend vaccination*. Notwithstanding, Illinois has a record of 22,000 from 1918 to 1924. New York, with a larger population, had but few more than 2,000 in the same time. Was the difference due to the fact that the large cities of New York have compulsory vaccination? What is there but the fact that the majority of us have been vaccinated, to prevent the return of epidemics that will startle the world? We may awake to realize that we have been sleeping on a veritable volcano, the eruption of which will destroy thousands of lives.

Venereal diseases are with us as much today as they were many years ago. They are none the less virulent—none the less contagious—a problem we must meet. Syphilis slays its thousands and gonorrhea its tens of thousands, and many of us doing little or nothing to stop them. There are also thousands suffering lives of torment, and children going about the streets in rags and poverty because their parents are incapacitated by these terrible diseases.

Deaths from *scarlet fever* in this state in 1923—234. Deaths from diphtheria the same year—809. More than a thousand from these two causes alone. You may say a great decrease from former years, but do you realize that from the record made there is no necessity of a *hundred deaths*, no not even *fifty* per year if the health activities of this commonwealth were properly supported?

Tuberculosis is causing the death of countless thousands of lives annually and many of these are sacrificed needlessly if we will only take heed to the signs of the times and increase our health work efficiency. This is one of the greatest problems of the age. Also many minor contagious diseases that should be given proper consideration—not so dangerous, but causing suffering and loss of time. How shall *we* meet this responsibility?

When I say *we* I mean the Profession. Health workers? Yes, they should be members of the Profession; there is little room for others. I am not speaking of individual cases, but in general. Nurses, of course, are needed to work in their line of work. The results of health work will *rise or fall* according to the support given by the medical profession, and the personnel of health

workers. Shall we meet the responsibility in such a way that we shall continue to drive out disease and death or shall our support be such that by our negligence more lives will be lost than we can possibly save with medicine? Did you ever consider the fact that it is the *young lives* that are taken by these contagious diseases? Did you ever sit by the bedside of a child three years old, and though you had the serum, feel your helplessness? You were called too late and you could not blame the parents, because other cases similar at the beginning were pronounced tonsillitis. You have hesitated, and properly so, to tell the parents it was too late to do any good because you knew it would drive another arrow into the heart of that mother and father. The only sure prevention for these sad occurrences is *prevention*. You say "How prevent?"

If every physician would be conscientious and swab every suspicious throat and quarantine every such case until definitely diagnosed, the present death rate from diphtheria would be cut in two at once, and the disease would soon be as scarce as leprosy in the state of Illinois. The serum is a great thing, but I do not believe it possible to get to every case in time for a sure relief, and as long as we have diphtheria, we will have an occasional death.

The *Schick test* and *toxin anti-toxin* are of wonderful assistance, but can never do the work until we lend our every effort to the isolation and prevention of disease.

There is not so much chance to eradicate scarlet fever, but just the same, we can, by careful diagnosis and conscientious quarantine, prevent many epidemics. Shall we work hand in hand with those in charge of the health work of our communities, or shall we negligently let the light cases pass as scarlatina and distribute the germ to others who will develop the same in a severe form, and then after this dread disease has done its work, causing death, do our quarantining?

Time forbids our going into many details of contagious diseases, but one stands out in the lime-light, that affects many homes, that annually in the State of Illinois, takes its toll of thousands of young lives. You may say we are learning to cure tuberculosis. We are, it is true; we cured tuberculosis twenty-five years ago. We have our Palmers, our Pettits, our Pottengers, from whom, I would not for anything detract or say a word minimizing their work. However, I

fully believe the greatest of their results come from the educational feature. They teach prevention; they practice prevention, and if the modern T. B. Sanatorium bore no other fruit than that from isolation and teaching of the prevention of tuberculosis, they would be worth many more dollars to a commonwealth than they cost. What I have said of diphtheria holds good of tuberculosis. As long as our young people are exposed to the germ, we will have many plucked from our homes while the bloom of youth should still be on their cheeks.

Regardless of modern treatment, regardless of our present system of prevention, more than 5,500 died annually in the State of Illinois, in 1921, 1922 and 1923. This is probably the low-water mark. It is very doubtful if our present health organization can improve on those figures without a more active co-operation of the medical profession. *What are we as a profession doing to check this salughter by the great White Plague?*

Many are standing with their hands in their pockets looking on ready to criticize parents, wiser than they perhaps, but ignorant on the subject of tuberculosis. Physicians who will cover their own negligence by saying, "Oh, well! they waited too long," when the fact is this very patient might have been contaminated by some physicians failing properly to safeguard the public—*failing by their lack of interest to prevent infection*.

Let us get down to the kernel of the subject. Without contact, no one will have tuberculosis. Some say that ninety per cent of our citizens are, at some time in their lives, affected by tuberculosis. The greater the shame, if this be true. No one is affected without taking into his system the live germ thrown off by some one else. You may say, "Why is the profession responsible?" Because they, above all others, are acquainted with the facts regarding the transfer of these germs from one patient to another. What per cent of our profession is today co-operating with the different organizations for the prevention of disease? You cannot say there are no such orders; if anything there are too many. You cannot say there are none doing efficient work. There are. Then why are we not more active in our effort to boost at least one or more of these organizations? I never did have any sympathy for the fellow who whined about the

way they were managed. If the *work is worth while*, he should be busy trying to remedy the faults rather than sit down to criticize.

It is true some of these organizations are for the money, and some of the fellows with the Department of Health of our great state are thinking more of the dollar they get out of it than they are the health of the citizens, but is not a larger per cent of our profession worshipping at the same shrine? Do not think for a minute I want any one to be less ethical professionally. We are not ethical enough now, but let us at all times practice ethics from a sound humane platform. *We must meet the responsibility. Shall we meet in a luke warm manner?* Without the support of the profession, the Department of Health, even in a great state like Illinois, will accomplish little. With proper support its work will be a boon, not only to our Commonwealth, but to every one of the forty-seven other states.

Let us then, regardless of criticism, regardless of time-worn customs and ideas, remember that at all times if we would save the greatest number of lives, we must render every service to whatever health organizations are working among our citizens in ethical, sane and progressive methods.

DISCUSSION

Dr. Wm. E. Shastid, Pittsfield, Ill.: I want to compliment Dr. Templeton on his very fine presentation of this paper. He has very thoroughly passed in review the salient features of public health and preventive medicine in the last twenty-five years. I am in no wise engaged in public health work. I simply have an academic interest in it, and have simply been an observer of the efficiency of public health work and preventive medicine of more than 25 years. I think at the present time typhoid fever, probably, offers the most outstanding and concrete result of preventive medicine as it is now. Twenty-five years ago it was no uncommon thing for a doctor to have six to 25 cases of typhoid at one time—in the fall and winter months, especially. My father, who was a practitioner before me, would not think he was practicing medicine unless he had a case or two during the entire year. I have not seen a case in four years. It was no uncommon thing for me to have six or eight in the fall of the year—for a family to get infected and go along one after the other, and it would be possibly three or four months before a house would be clear of the disease. If there are any doubts and any one does not believe what public health is really doing in preventive medicine, I offer that as an example. Now about trachoma—25 years ago I would have four, five or six cases of trachoma all the time. I have only had

one or two cases at a time as an average for several years, and those mostly in modified form, and you can see what has been accomplished in that disease. Concerning diphtheria. That is one of the most striking examples in the history of medicine, to my mind. In 1894 I was taking a postgraduate course in London and Vienna. During that time Prof. Behring of the University of Marbourg and Dr. Rowe of Paris, found out there could be prepared an antitoxin which would in time prove a very efficient help in cases of diphtheria. When I came home I went all over New York trying to buy a little package of antitoxin. I tried all the houses where I thought it was possible to get it, but could not buy it for love or money. In 1895 I was in St. Louis and tried to buy some there. Could not get any there. A friend of mine, with whom I had done considerable business, I asked in the event of my getting a case of diphtheria, if he could get some antitoxin for me. He said he would if there was any in St. Louis. Well, I had an outbreak in one family—five children from three to twelve. The oldest child had it first. I treated him in the usual way and he seemed to be getting on all right. The next child, a baby about one year old, contracted the disease and died in 24 hours. There were three other children between these ages. I laid the matter before the parents and I said I thought there was an antitoxin that had recently been developed which would cure the disease. They said "Get it." It cost \$20 a throw in those days. I got it right away and began to shoot up the three patients, and it was less than 36 hours when the membrane began to flake away and my patients began to get better. I knew I was taking my life in my hands, because if that antitoxin killed the patients supposedly, I was accessory before the law, and I knew where I came out. I saved those three children, and I am the first man in western Illinois who used antitoxin, so far as known, and I have lost but one patient in thirty years—a little fellow where the membrane formed at the bifurcation of the bronchial tubes. He was hoarse and I should have known better, but I could not see anything. By the time I could see the membrane, I shot in 500 units—that was all I had. But it was too late. Let me tell you another thing. About 20 years ago I had several cases of diphtheria and I used from 1/2000 units of antitoxin. I was using it as a precautionary measure, as they had all been exposed. But they did not take it. I got a letter from Dr. Griffith, who was connected with the Board of Health. He said the Board of Health did not approve of using 2/3000 units of antitoxin in contact cases as a prophylactic. That shows what progress has been made in our understanding of what is most useful. In those days it was thought 2,000 was a great big dose. You can see that from what Dr. Griffith wrote me. Now we would not have any hesitancy in using double that amount. In a severe case, twenty, thirty, forty, or even fifty thousand units as a curative measure are now and then used. I think that illustrates the progress we have made in the treatment of that disease. And now the great state of Illinois says to its peo-

ple—"We will furnish you without cost this wonderful antitoxin, and all we ask is that you use it, and use it as prophylactic in contact cases, and all you have to do is to ask for it at Springfield, and we stand behind it." Now you can see what a difference there is between now and 25 years ago in this one disease. There are a number of other diseases in which we have made a great deal of progress in prevention and treatment. I think that illustrates it more than any other disease at the present time, of what we may term those of common incidence. I think lots of us have never fully appreciated what was done in California in keeping down a nation-wide spread of bubonic plague. Last winter I spent some months in California and I was impressed with the number of ground squirrels all over the state—little chipmunks, or whatever they call them. They had an active threat of the whole nation becoming overrun with the plague, and the state board of health declared war on these little animals and fought them hard, and finally stamped out the disease, of which they were carriers, and I believe they saved this nation one of the greatest pestilences of modern times. I feel the California state board is to be congratulated on its prompt action, saving other states from that awful disease.

DISCUSSION OF DR. TEMPLETON'S PAPER

Dr. Jas. S. Templeton, Pickneyville (closing): I want to thank Dr. Shastid for so ably discussing this paper. Really some of the things he mentions were before my time. I feel there are better days ahead for health workers in the state of Illinois, and it will not be long before we are all working along together for control of the contagious diseases. Something was said this morning regarding state institutions and the insanities. I thought of how many people for whom I had signed the papers consigning them to Anna, and there has never been a single word sent back from that institution telling me what was found and how the condition could have been prevented. How can we prevent other boys and girls from going the same way? It is a deplorable fact, I think, that the man who works in the institution never gives the medical profession, the man who work at home, a single thought, and there is but little provision in the State of Illinois for research into the cause of prevention of insanity. I believe we will have to agitate among ourselves until we get the profession interested in it and then make our demands upon the state so that those in authority should give us the information. The general practitioner should have more information. My office is across the street from the courthouse in a county seat town, and when there is a patient to be committed to the asylum, they run out and get a doctor, and I sign the papers, and I don't know anything about the people I send down. I take the word of two or three people and send these patients to the asylum, and we never hear one word concerning the case from the time it leaves our hands. He is insane—we sent him there. I believe you will bear me out in saying this condition calls for remedy.

HEMOCHROMATOSIS IN A WOMAN

F. W. MOELLER, M. D. AND J. H. HUTTON, M. D.
CHICAGO

In 1901 Abbott reported a case of hemochromatosis in a woman. As no others were reported during the next twenty years some doubt was expressed as to the validity of Abbott's case. Mills recently reported seventeen new cases of hemochromatosis, three of which occurred in women, all proved by post mortem findings.

The case here reported is the fifth female case in the literature. Its further claim to interest lies in the fact that the diagnosis was made during life and that there is present at this time neither glycosuria, hyperglycemia, nor demonstrable signs of liver cirrhosis.

Complaints: Mrs. J. R., age 53, was first seen March 27, 1924, by Dr. Fred W. Moeller. Her complaints at that time were, 1. weakness. 2. cyanosis and coldness of her fingers and toes, and coldness of her whole body. Extreme sensitiveness to cold and fondness for heat and hot weather. 3. A brownish discoloration of the skin involving almost the entire body, but especially marked on the arms and across the abdomen where her skirt band rubs. 4. Large ulcer on the left leg just above the ankle.

With the exception of the leg ulcer which dates from a pregnancy 23 years ago, her complaints date from the winter of 1922 and 1923 when she was abnormally sensitive to the cold and her fingers became cold and cyanotic but did not ulcerate.

History of the Case. In March, 1923, her face was red and swollen, resembling erysipelas. Her eyes were swollen shut in the morning but opened up toward evening. Her face was covered with pimples. These lasted a few days and disappeared. The pimples, redness, and swelling came and went a number of times between March and June of 1923. At that time there was apparently nothing in her appearance, other than this, to attract attention. In August, 1923, the skin had become somewhat leathery and the brownish discoloration had begun on the right upper arm. There was a patch on the right chest and some on the abdomen. At this time she did not feel badly and had no pain. Her appearance, however, attracted the attention of a doctor, who saw her for some other complaint, and she was put on arsenic. She took this for three months, evidently in the form of Fowler's solution, at the end of which time the discoloration had increased and she was feeling very badly. She had no headache, no abdominal pain, and no gastro-intestinal disturbances. She went to bed, however, to use her expression, because she was "all in" and "just couldn't go any longer." She says by the end of November, 1923, the discoloration had reached its present extent.

During the winter of 1924 she says she passed urine which had the appearance of orange juice and was so thick it would scarcely pour. During this time she was not confined to bed.

During the winter of 1923 and 1924 the tips of the fingers ulcerated but healed up after a time. The toes, although cyanotic, have never ulcerated. The weakness has been present at various times during the last eighteen months.

Present Habits and Condition: The appetite is good except when disturbed by heartburn. There has been no noticeable loss of weight. The bowels are regular. Her sleep is restless. It is sometimes disturbed by the pain in the leg ulcer. She is much more comfortable in hot weather. During a recent hot spell, when other members of her family were complaining of heat, she put on a hat and sat in the sun and felt comfortable. She is very comfortable when working around a hot stove. At the present time she carries a small hot water bottle in a sort of a muff to keep her hands comfortable when on the street.

Past History: Is entirely negative so far as can be determined except for a bilateral phlebitis following labor twenty-three years ago. The ulcer on the left leg dates from that time.

Menstrual History: She began at thirteen years, regular every twenty-eight days, flowed freely for five or six days without pain. The menopause occurred at forty-eight. About this time she had a considerable hemorrhage. She sometimes feels as if she might menstruate again.

Family History: She was born in Germany, near Berlin. Her father was killed in an accident at the age of 75. Her mother died at 78, cause not known by patient. She had one sister who died at the age of 64 "from nervousness" although one doctor told her she had softening of the brain. She has two brothers and one sister living and in good health.

Her husband weighs about 300 pounds and is said to be incapacitated by frequent asthmatic attacks. The patient has had eleven children; two girls and nine boys. They are all living and well except one boy who died of diphtheria when a few days old. They range in age from 8 to 33 years.

Physical Examination: She is 5 ft. 5 inches in height and weighs 146 lbs. There has been no loss in the past two years.

T. 98.6, P. 80, B. P. 125/85. There is a dark brown pigmentation on the arms, forearms, chest, abdomen, and back, and to a less extent on the legs and about the face and neck. It is not more marked in the folds of the axilla, in the groin, nor about the genitalia. It involves the palms and soles. It does not involve the mucous membranes.

The fingers are bluish white, very cold and stiff, and the tips are scarred from ulcerations. The nails are in good shape and are not brittle. The lunular markings are normal. The toes are cyanotic but have never ulcerated. The fingers have the typical appearance of Raynaud's disease.

The skin on the arms has the appearance of scleroderma. This is more marked on the anterior aspect

of the right arm. The nose is pointed and pinched in appearance as in scleroderma.

On the anterior aspect of the left leg, near the ankle, is an ulcer about five centimeters across. She states that it developed following labor twenty-three years ago and has healed up a number of times. Judging from her history it must have been due to phlebitis. Both legs were badly swollen but only the skin on the left broke down.

The reflexes, both deep and superficial, are normal. Gait, station, and co-ordination are normal. There is no tremor of the hands or tongue. There are no palpable glands. Pupils are equal, regular, and re-act to light and to accommodation. The nose is normal except for the pointed pinched appearance. Only a few teeth are left, two or three have decayed since she came to us. The others decayed early in life. The throat is negative, tongue is normal in appearance, the thyroid is not palpable. The heart is normal in size and position and no murmurs are heard. The lungs are normal. There is no edema of the legs.

There are a few white spots on the upper abdomen, irregular in outline, perhaps .5 centimeters in diameter. The lower abdomen is covered with lineae atrophicae. Neither the liver, spleen, nor kidneys are palpable. There is no muscular rigidity and no signs of fluid.

Vaginal examination shows a bilateral laceration of the perineum and of the cervix. The uterus is of normal size, freely movable, and in normal position. No masses can be felt in the pelvis and there is no tenderness.

Rectal examination was negative.

There is a rather scant hair suit over the body but it is normal over the lower legs. The eyebrows are normal. She has lost considerable hair from her head. What remains is not especially dry nor brittle.

Laboratory Findings: The blood showed a negative Wasserman, mild secondary anemia, a normal differential count, and no signs of degeneration of the red cells.

At this time (March, 1924) the urine showed a trace of albumin and sugar and a few casts. A blood sugar determination was not made.

March 26, 1924, Dr. Hennemeyer demonstrated in a piece of excised skin hemosiderin crystals typical for hemochromatosis. This was confirmed by other pathologists.

Pathologist's Report and Discussion: "Stains used: Hemalaun-Eosin and iron-reaction. The stratum corneum shows normal structure, so does the stratum Malpighii which shows well defined intercellular bridges; the papillae are not hypertrophic. A considerable amount of pigment, varying in formation from dust-like granules to little lumps with dented outlines and of golden-brown to bronish-black color is present in different parts of the structure. It is found in the cells of the cylindric stratum basalis; pigment-granula are also present in the stroma, free or enclosed in star or spindle-shaped cells of connective tissue, the so-called "chromatophores."

Especially the endothelial cells forming the walls of

small-blood-vessels, arterial as well as venous, are carrying pigment-granula also.

Diagnosis—Hemosiderosis of the skin in a case of general hemochromatosis."

As the patient's home was in a distant city she could not be kept under observation for further study at that time (March, 1924).

Because of the fact that both the suprarenals and the anterior lobe of the pituitary have some influence on pigment metabolism she was given suprarenal (whole gland) grs. II and pituitary anterior lobe grs. V TID by mouth.

August 24, 1924, she presented herself for further study. Her complaints were as before and in addition some "heartburn" had been present for a few days. This disappeared within a week. It had also been present some weeks ago when even water seemed to aggravate it and she ate very little because of the distress.

The physical findings were unchanged. The laboratory findings were as follows:

Blood chemistry—

Sugar	81 mgs.
N. P. N.	30 mgs.
Calcium	8 mgs.
Uric acid	4.2 mgs.
Creatinin	1.5 mgs.

Renal function showed a phthalein output of

60% the first hour
10% the second hour
200 cc excreted the first hour
60 cc excreted the second hour

There was neither sugar, albumin, nor casts in the urine at this time. The gall bladder contents, obtained by non-surgical drainage, were normal. The stomach contents showed rather low acidity but were not abnormal in any other respect. The stool was negative for blood, ova, parasites and undigested food particles.

X-Ray findings as follows:

"The accessory sinuses are apparently normal. The same was true of the sella turcica. The heart and lungs were both normal. No gall stones could be seen and the kidney shadows were normal. The gastro-intestinal tract was normal so far as could be ascertained. Films made of some of the long bones were also normal."

The basal metabolic rate was normal.

It will be noted that the sugar had disappeared from the urine and that a rather low blood sugar was found. The medication was continued.

April 8, 1925, she again reported to us for examination. She stated that she was feeling better and that her hands had gone through the winter with less discomfort than the preceding winter. The laboratory and physical findings were essentially unchanged. The medication was as follows:

Pituitary (anterior lobe)	grs. II
Suprarenal (whole gland)	grs. I
Strychnia	grs. 1/60
Sig:	1 cap. TID

She reported for examination again on December 14, 1925. The physical examination was the same as on previous visits except that the skin of the fingers

was much more soft and pliable. The skin on the upper right arm was much softer. In March, 1924, when attempting to inject a local anesthetic into this area Dr. Moeller broke a number of hypodermic needles. The skin has now softened to the extent that a needle could be easily introduced into it.

Reports of the laboratory examinations follow:

The urine had specific gravity of 1.021 and showed a trace of albumen and numerous hyaline casts. It did not contain sugar.

Blood chemistry showed—

Sugar	89 mgs.
Calcium	9 mgs.
Uric acid	10 mgs.
Creatinin	1.5 mgs.

Blood count showed—

Hemoglobin	65%
R. B. C.	4,150,000
W. B. C.	6,300

Samples taken from the ear and from the cyanotic finger tip showed—

From the ear—

Hemoglobin	65%
R. B. C.	4,500,000
W. B. C.	9,000

From the finger—

Hemoglobin	65%
R. B. C.	4,480,000
W. B. C.	8,900

This was done at the suggestion of Dr. Mix who has noted that blood counts taken from the finger tips in Raynaud's disease show a higher percentage of hemoglobin and a greater number of red cells than counts made at the same time from the lobe of the ear.

She reports considerable subjective improvement. Her fingers are without doubt more pliable than they were before. There is more sensation in them too. Two years ago she was unable to do any sewing because her fingers were so numb. She now does all the sewing for a family of four and says she gets along very nicely with it.

It may be that this improvement is purely a matter of coincidence. We should not feel like going into a very long-winded argument over that point. But to such as may wish to accept that view of the matter it might be pointed out that no other case in the literature has ever kept on foot so long or reported even temporary improvement. Certainly the patient is entitled to the benefit of the doubt. She will consequently be continued on this medication while under our care.

6054 Cottage Grove Avenue.

SURGICAL PHYSIOLOGY OF THE PANCREAS

W. J. HURLEY, M. D.

CHICAGO

As far as surgical achievement is concerned, the pancreas is a comparatively unexplored field. Perhaps the reason is that with the exception of acute pancreatitis disease of the pancreas is seldom recognized at a time when operative procedure might offer some hope of cure.

The function of the pancreas is not well understood though numerous theories have been advanced. It is considered to have two distinct functions, one as an aid to digestion and the other, a purely hypothetical one, dealing with the anabolism of the physiological system.

The pancreas is described as a compound racemose tubular gland resembling the salivary glands and containing small irregular masses known as the islands of Langerhans. In man the pancreas is situated chiefly in the epigastrium, extending transversely across the posterior abdominal wall from the concavity of the duodenum to the inner border of the spleen. It is from 5 to 6 inches in length and weighs from 85 to 90 grams. It consists of a head, neck, body and tail. Its blood supply is mainly derived from the splenic artery, the inferior pancreaticoduodenal branch of the superior mesenteric artery, and numerous anastomosing branches from the adjacent organs. The veins are all tributaries of the splenic and superior mesenteric. The nerve supply is derived from the cerebro-spinal fibers coming from the vagi and the sympathetic fibers from the solar plexus.

The duct of Wirsung is the principal pancreatic duct. It has its origin in the tail of the pancreas by the union of numerous small tributaries draining that region and gradually increases in size as it courses through the body from left to right. At the neck it alters its course, bending downward and backwards in the head of the organ and lying closer to the posterior than to the anterior surface. It is in relation with the common bile duct, pierces the wall of the second part of the duodenum about three to four inches below the pylorus, opens into the lumen of the gut by a common orifice, unites with the common bile duct in the ampulla of Vater.

The duct of Santorini is an accessory pancreatic duct, draining the head primarily and the body and tail when the main duct is obstructed either by pathologic growth or when surgical interference is instituted, and emptying into the duodenum about one inch above the ampulla of Vater.

There are numerous anomalies of the pancreas, definite glandular structures having been found in different portions of the digestive tract. Recently Steiger¹ reported an accessory

pancreas in a diverticulum of the lower ileum causing a subacute invagination of the intestine.

There are several more or less characteristic symptoms of pancreatic disease which result from the cessation of pancreatic secretion and consequent disturbance of digestion and absorption of food. Among these are fatty diarrhea, imperfect digestion of proteins, rapid emaciation, lipemia and lipuria. Glycosuria is an important symptom and the role of pancreatic disease in the pathology of diabetes is a leading one.

Acute pancreatitis in its most severe form is fortunately not common. When once seen the picture is so striking that it is never forgotten. The attack begins suddenly with intense pain in the epigastrium, followed by vomiting and collapse. The shock is more pronounced than that met with in perforated gastric or duodenal ulcer. The treatment is surgical and consists in exposing the pancreas and instituting free drainage. Where the acute symptoms are not recognized the case may go on to necrosis and death within a few days.

Chronic pancreatitis is characterized chiefly by the formation of fibrous tissue in the gland. Opie recognizes two types, the *interlobular* in which the fibrous tissue is chiefly between the lobules, and the *interacinar*, in which a new growth of interstitial tissue invades the lobules and penetrates the acini.

Interlobular pancreatitis in the vast majority of cases is secondary to diseases of the biliary passages, chiefly gall-stones. Ulcer of the stomach or duodenum and chronic duodenitis are the next most common causes. Microscopically this form is characterized by the presence of coarse strands of connective tissue between the lobules and more or less atrophy of the secreting parenchyma. The cells forming the islands of Langerhans are not affected until the late stage. In the interacinar form there is very early degeneration in the islands of Langerhans and a consequent glycosuria. The treatment of the interlobular form is directed toward the underlying cause, while that of the interacinar is the usual treatment for diabetes mellitus.

Carcinoma of the pancreas occurs less frequently than does carcinoma of other abdominal organs. At the Chicago meeting of the American Medical Association in 1924 J. J. Gilbride²

1. Steiger, W. Wien. klin. Wochenshrft., 1925, 38, 900.

2. Gilbride, J. J. Jour. Amer. Med. Assn., 1924, 83, 984.

reported 11 cases of carcinoma of the pancreas, 10 primary and one secondary to a carcinoma of the rectum. The treatment is usually palliative for the reason that the cancer has usually invaded other organs before operation is attempted.

Sarcoma of the pancreas is rarely a primary tumor. Gilbride in the same paper reported one case.

Cysts of the pancreas are of several varieties. Hemorrhagic cysts are sometimes the result of necrosis of portions of the organ. A hematoma may later be converted into a serous cyst. Retention cysts are caused by obstruction of the larger pancreatic ducts by calculi, tumor, strictures, etc. Proliferation cysts, cystadenomata, are usually benign but may undergo malignant degeneration. In this connection one must also consider the pseudo-pancreatic cysts or the cystic accumulations in the lesser peritoneal cavity adjacent to the pancreas.

The following cases of disease of the pancreas have come under my observation:

Cyst of the Pancreas. 1. The patient was a policeman, aged 45, who complained for some time of a fulness in the left side of the abdomen, particularly noticeable on bending over. Physical examination showed a palpable mass in the left hypochondrium extending down into the kidney region, slightly fixed and tender on pressure. X-ray examination of the gastro-intestinal tract was negative. An exploratory operation was performed. A cyst of the pancreas was found. The anterior border was firmly fixed to the spleen and was freed with difficulty. Considerable hemorrhage ensued but was controlled by pressure. The tail of the pancreas was then brought into view and five interrupted mattress sutures placed in its contents. The cyst was excised. A small amount of hemorrhage ensued but was easily controlled. Drainage was inserted and the abdomen closed. The patient made an uneventful recovery. It is now six years since the operation and the patient is still in good health.

2. The patient, a male, aged 21, consulted me in July, 1919, complaining of a fulness in the stomach especially marked after the taking of food. This had been present for two months. Physical examination revealed tenderness in the epigastrium. X-ray examination showed the stomach divided into two compartments. An exploratory laparotomy was advised. On opening the abdomen the stomach was found displaced but there were no signs of inflammation or tumor mass. On incising the gastrocolic omentum and exposing the pancreas, a cyst about the size of a grapefruit attached to the lower portion of the pancreas came into view. The cyst and pancreas were freely movable. The cyst was completely removed with a small portion of the pancreas. The cut surface of the pancreas was

approximated with interrupted catgut sutures. A drain was inserted. Very little drainage followed and the drain was removed in ten days. The patient left the hospital in 16 days. He has been examined repeatedly during the past five years and there is no evidence of recurrence.

Chronic Pancreatitis. I have had several cases in which a chronic pancreatitis was found at operation as the result of either gallbladder or stomach disease. The removal of the underlying pathology cured the pancreatitis.

Acute Pancreatitis. On January 1, 1919, an adult male was admitted to the hospital in a semi-comatose condition, with the history of having had stomach trouble for the preceding five year. A few days before admission he had had a severe attack of abdominal pain followed by vomiting and diarrhea. On admission the temperature was 104 and pulse 135. The abdomen was opened and a serosanguinous fluid escaped. The pancreas was greatly enlarged. An opening was made into the fluctuating portion of the pancreas and a considerable amount of purulent material escaped. The patient died the following morning. No autopsy was permitted.

Had this patient been seen at the onset of the attack surgical treatment might have been of some avail. It is unfortunate that this type of case is often not recognized until too late.

CONCLUSIONS

1. Pancreatic conditions are many times erroneously diagnosed.

2. The pancreas should be explored in all cases presenting symptoms referable to the gallbladder, liver, stomach and duodenum.

3. In chronic pancreatitis the underlying cause should be removed and the pancreas indirectly drained either through the gall-bladder or stomach.

4. All pancreatic cysts that are not inflammatory should be removed if possible, if necessary sacrificing a portion of the gland itself.

6556 S. Halsted Street.

PELLAGRA-CASE REPORT

C. GEORGE APPELLE, M. D.

CHAMPAIGN, ILL.

May 29, 1924. Patient is a white male, aged 72, height about 5 ft. 7 in., weight about 135 lbs. (has lost about 30 lbs.). He has always lived in Central Illinois, and has never been ill. Fifteen years ago he had the left little finger amputated because of an injury. He has had no serviceable teeth for twenty years. He is the father of three healthy children.

Present Complaint: General weakness, no appetite, pains in the legs, feet, arms and

hands, lack of strength, inability to walk much because of pain in the calves. "Down in the dumps about all the time" because condition is growing worse instead of better. Moderate itching of the skin of the hands, about the eyes and scalp. Soles and palms have a tingling sensation at times. There is no soreness of the tongue; urination is normal, the bowels are regulated with mild laxative. Sleeps well.

History of Onset: August, 1923, he noticed a failing appetite and loss of strength. In September he noticed erythematous patches on the cheeks which extend to the eyelids. In about



Fig. 1.—Showing patches on the knees, wrists and hands, arms, etc.

seven days, similar patches occurred on the backs of the hands and wrists including a band over the flexor surface of the wrists. Patches occurred on the back of the neck and also lower down on the shoulders. The skin of the knees was similarly affected as were the points of the elbows. There was no involvement of the dorsal aspects of the feet. These areas of erythema

were of a deep dark red and had a sense of heat. The itching was slightly annoying, especially on the backs of the hands and cheeks where some vesicular lesions occurred. There was pain in the forearms and hands and also the legs as of a neuritic nature. In about three weeks the redness faded and the skin peeled in rather large scales leaving a "smooth shiny reddish pink surface."

No preceding or concurrent diarrhea was noted but rather a slight tendency to constipation. The tongue was not sore, and there were no spells of vomiting. There was a distinct falling off in the appetite. He had spells of "the blues," whereas formerly he had always been of a cheery disposition. Lassitude and weakness were marked with more or less pain in the extremities.

Physical Findings: Patient is fairly nourished, he is markedly stooped. He is able to sit up and walk about. The temperature is 98 and pulse 74.

The skin is dry and wrinkled. About the eyes and on the scalp there occurs a scaly desquamation. The backs of the hands and wrists show a very slight brownish discoloration. Similar areas occur on the forearms and arms. No definite discoloration is noted over the dorsa of the feet, the knees or back. The skin generally is dry and scaly.

The eyes show arcus senilis, with normal movements and pupillary reactions. The nose appears negative. The tongue looks clean, moist and somewhat pale. The teeth are absent and the throat appears negative. The thyroid gland is not enlarged and there is no cervical adenopathy.

Chest: Shoulders markedly stooped, contour is symmetrical and the movements are free. Examination of the lungs is negative. The heart is slightly enlarged, shows an occasional extrasystole, and is free from murmurs. Blood pressure S. 120, D. 70.

Abdomen: Liver, kidneys and spleen are not palpable. There is some tenderness on deep palpation in the epigastrium, no distention, and the hernial apertures are secure.

Extremities: Wasting of the musculature generally. The left little finger is absent. Tenderness in the calves on firmly grasping the muscle mass.

Reflexes: Knee jerks diminished, no Rom-

berg, Babinski or ankle clonus; cremasteric and abdominal reflexes active. (At subsequent examinations material variations were noted in the knee jerks).

Laboratory Findings: Urinalysis negative. W. B. C. 10,000-R. B. C. 4,200,000 stained blood smear shows preponderance of polymorphs, five eosinophiles and three basophiles tabulated in 100 cells counted. Blood Wassermann is negative for lues.

Subsequent Course: Patient was put on the

September 21, 1924—Confined to bed most of the past week.

September 24, 1924—In bed; temperature 100. Lungs show rales.

September 25, 1924—Temperature 101; respiration 24, Hypostatic pneumonia.

September 26, 1924—Temperature 99; respiration 18, feels easier.

September 29, 1924—Yesterday onset of severe diarrhea—requiring opium and bismuth for rest.

September 30, 1924—Died 8:30 a. m.

Comment: Pellagra is infrequent in this section.

The edentulous condition of the patient seems



Fig. 2.—Patches of involvement of skin of back and sacral region.

Fig. 3.—Shows patches across flexor surfaces of wrists and points of elbows.

Goldberger regimen, but the lack of appetite made feeding extremely difficult. The following abbreviated notes are extracted from the record:

July 12, 1924—Back of hands to last finger joint half way to flexor surface of fingers show erythema; symmetrical patches of erythema on arms, elbows and knees.

July 21, 1924—Dorsal wrist patch has extended in band form over flexor surface; symmetrical patches on both forearms; eye areas continue red, scalp appears red and scaly; previous eruption about the same.

August 5, 1924—Red patches on the back of neck, either side of the spine, sacral region, and both forearms, ulnar aspect. Course is downward.

August 10, 1924—Consent obtained to take photographs which accompany this report. The erythema has faded somewhat.

September 13, 1924.—Brownish discoloration over former erythematous areas. Occasional vomiting. Gradually failing.

to support the diet deficiency theory of this disease.

Robeson Building.

THE TREATMENT OF FIBROIDS*

W. C. DANFORTH, B. S., M. D., F. A. C. S.

EVANSTON, ILLINOIS

The treatment of fibroids may seem a trite subject and it may seem to some that the question was long since settled. Although much has been written and spoken upon the subject, it is an important one, for fibroids are a frequent finding in gynecologic work. For the purpose of illustration I will indicate by tables the methods used and results attained in a series made up of the last one hundred cases which have come under my care. The operation of

*Read before the Chicago Medical Society, December 2, 1925.

hysterectomy with intra-abdominal treatment of the cervical stump seemed to place the treatment of these growths upon a permanent basis, with results so satisfactory that little more could be expected, yet the advent of radium enabled us to manage a part of them with great satisfaction without operation. We may say that today we may adopt one of three courses, operation, irradiation, or, in a certain portion of the cases neither may be needed. When no active treatment is used, we should be careful to state that, while at the time a given case is seen by the surgeon no interference is indicated, this holds true only for the time at which the statement is made. At a later date changes in the growth may make an inactive course no longer advisable. A statement that, in my experience for example, a certain percentage of tumors should be let alone, may be misleading. If every surgeon could follow all of the cases of fibroid which he sees through their entire life history, he would find some which required no treatment when first seen, needing operation or irradiation at a later date. An unqualified statement, therefore, that any definite proportion of fibromyomata should be let alone may well be deceiving.

My own experience seems to show that tumors which, first, are not causing bleeding, second, which are not causing pain by pressure, and third, which are not increasing rapidly in size may be left alone. In addition, during the reproductive years, one should consider whether the tumor is so located or of such a size as to interfere with labor. In all cases in which an inactive course is chosen the women is advised as to the necessity of periodic observation and is particularly counselled to return should abnormal bleeding appear or should any pelvic discomfort be felt.

The addition of radium to our therapeutic armamentarium has enabled us to treat a portion of our cases of fibro-myoma non-operatively. The results of this mode of treatment is, in intelligently selected cases, very satisfactory. The addition of a new means of treatment is often the cause of much misdirected enthusiasm, and radium has had its full share of this. Time enables a true estimate of the value of any method to be made. We know today that a large

part of the fibroids which are seen by surgeons are not suitable for irradiation. Certain very definite and generally recognized contra-indications exist and these must carefully be regarded.

In order completely to control bleeding from a fibroid sufficient irradiation must be given to cause menstruation to cease, that is, ovarian activity must be destroyed. It is therefore inadvisable to irradiate tumors in young women. In these operation is better, as it enables the surgeon to conserve one or both ovaries, and in some instances, the uterus itself.

Table 1. AGE OF CASES.

20-30	4
30-40	35
40-50	47
50 plus	14
Colored	38
White	62

The use of radium in the uterine cavity is unsafe in cases in which the pelvis is also the seat of infection, present or past. Experience has only too clearly shown that pelvic inflammation may become active again after irradiation. Inflammatory disease must be very carefully inquired after in all cases in which the use of this form of treatment is considered. No woman who has or has had a pelvic infection should be subjected to irradiation.

Table 2. CHARACTER OF TREATMENT.

Operation	84	{ Laparotomy ...82 Vaginal 2	{ Cervical myoma Pedunculated sub- mucous fibroid
Irradiation	16		

The size of the growth imposes limitations upon us. Our own rule has been to irradiate no tumor which is larger than a three months pregnancy, unless some condition exists which makes operation inadvisable. A tumor which causes the uterine cavity to be so tortuous that difficulty would be experienced in introducing, or, far more important, removing the radium capsule, should not be irradiated. An ovarian growth co-existing with a fibroid should cause the rejection of irradiation. Polypoid growths in the uterine cavity, or growths extending laterally to a considerable distance from the uterine cavity should not be treated by irradiation.

In short, we may irradiate fibro-myomata in women over 40, if the growth is not larger than a three months pregnancy and if the woman has never had a pelvic infection. With these limitations, the results of irradiation are satisfactory. We may expect to relieve the bleeding in 90%

of the cases with one treatment of 1,200-1,500 milligram hours. Danger is very slight. In about 170 cases in which irradiation has been used in the Evanston Hospital for uterine bleeding of benign origin, fibroids or myopathic bleeding with no tumor, there has been no death and only slight morbidity. We much prefer to use two capsules of radium placed tandem, each of them containing fifty milligrams. This causes a much larger area of the uterus to be subjected to irradiation. It also shortens the time of application by one-half and therefore is less troublesome to the woman.

X-ray treatment has not been mentioned. Our experience would indicate that very few fibro-myomata should be treated by X-rays. Radium or surgery will meet the indications of all but the most exceptional case. In the series herein reported no case has been so treated. It seems scarcely logical to subject the abdominal wall, the bladder, and a part of the intestines to the rays, which, except in very large growths, must be traversed by them before they reach the uterus.

Surgical treatment is used in a considerably larger number than is irradiation. Our choice is in the very great majority of cases for abdominal operation. Vaginal operation is used only for pedunculated fibroids which are easily accessible from below or for the rare cases of fibroids of the lower part of the cervix. One of each of these forms a part of this report.

Abdominal operation may be either hysterectomy or myomectomy. Myomectomy has recently attracted some attention, particularly because of the publications of the Mayo Clinic and of C. Jeff Miller. In young women in whom the preservation of the uterus is of importance, and in whom the relationship of the tumor to the uterus is such that a reasonably serviceable organ may be left, myomectomy may be chosen. In older women it would seem wiser to excise the uterus. In younger women in whom the excision of the tumor will leave a badly mutilated uterus, removal of the uterus should also be done. Our own preference is for the removal of the uterus. Myomectomy is reserved for those women in whom the preservation of the power of reproduction is of real importance.

Table 2.

OPERATION

Both ovaries retained	12
One ovary retained	22
Both ovaries removed	39

In answer to the question, should a sub-total hysterectomy be done or should the entire organ, including the cervix, be removed, we prefer the sub-total operation except in those cases in which a possibility of malignancy exists or in which the cervix is seriously diseased. It is true that those who advise the routine performance of total hysterectomy base their argument on the possibility of cancer in the stump. This danger has been over stated. It is possible for malignancy to appear in the stump but I believe that the greater operative risk which is taken in removing the entire uterus more than balances the danger of the appearance of cancer in the stump. Giles of London states that in 118 cases no malignancy appeared in the cervical stump. In between two and three hundred hysterectomies of my own, the records of which were recently looked over, one case of cancer in the retained stump has been seen and I am quite convinced that a carcinoma of the corpus was overlooked in that case. Clark, in a very recent article giving the results of the treatment of fibroids in the clinic of the University of Pennsylvania, has stated that their experience causes them to favor the subtotal operation and upon grounds quite similar to those just given. Crossen of St. Louis also believes that the operative risk of the more extensive procedure outweighs the risk of later malignant disease of the cervix. If, during an operation for fibroid, the surgeon should have reason to fear that a carcinoma of the body is also present, the uterus after removal may be opened immediately and inspected. Should its appearance cause him to think that carcinoma may be present, the cervix may be removed at once. Any suspicion of malignancy before operation should cause a total operation to be done.

We greatly prefer to leave one or both ovaries. This is always done unless their condition is such that later trouble seems likely. An infected ovary is better out, for, as reproduction is no longer possible in any of these women with the exception of the few who are treated by myomectomy, our single goal is the woman's health. She is better off with healthy ovaries remaining in the pelvis. An infected ovary is

likely to trouble her and quite probably lead to further surgery later. Repeated operations for the same trouble cause the woman to be subjected to needless risk and suffering. It may also be suggested that they do the medical profession no good. It should be repeated, however, that conservatism wherever possible should be the rule.

The mortality of the sub-total operation in expert hands varies from 1.5% to 2%. These figures are taken from hospitals and clinics in which the operative work is done by men of skill and experience. Black estimates that the mortality in the hands of the average operator is 5.29%. The same writer reports the mortality of the total operation is 9.44% in average hands. These figures are higher than those found in the best clinics but the relationship between the risks of the two operations is probably about the same.

As the great majority of operations are done by average and occasional operators, it seems wiser to regard the subtotal operations with its lower mortality as the routine procedure. Particularly is this so when in the hands of experienced operators the danger of carcinoma in the stump of the cervix seems to be balanced by the increased risk of the operation.

Vaginal hysterectomy is practically excluded from our list of available surgical methods. We have done it but once in several years in the treatment of fibroid. The patient was an elderly woman who had a small fibroid associated with a prolapse. In the series discussed here it has not been done at all. Other vaginal procedures are needed only in case a pedunculated submucous growth is present, or when a cervical myoma is found. The latter is a rather rare occurrence. It is wiser not to remove a submucous growth vaginally and do an abdominal hysterectomy at the same sitting. It is wiser to defer the latter till some weeks later, as the uterine wall, when a growth of some size has protruded into the vagina for any length of time, is apt to be invaded by bacteria to a degree which will very materially increase the risk of operation.

The treatment of fibroids today seems to be on a satisfactory basis. Results in experienced hands are exceedingly good. In the series here given the gross mortality is 1 per cent. The radium mortality is nil and the operative mortal-

ity is 1.2 per cent. The one death occurred suddenly, without any evidence of intra-abdominal trouble, in a woman with a history of previous cardiac trouble, and who had had a difficult hysterectomy for a growth extending downward under the bladder. Autopsy was not allowed.

Table 4. IRRADIATION

Total number	16
Successful relief from one treatment.....	14
Further treatment needed	2
Operation	1
Bleeding decreased	1

AGES OF RADIUM CASES (16)

30-40	40-50	50 plus
2	10	4

It should be indicated that, as shown in table one, 38 of this series were colored women. These were cared for in a small hospital for colored people in Evanston. None of these were irradiated. A very large number of them had accompanying lesions in the pelvis of an inflammatory character, which of itself would exclude them from radium therapy. No radium equipment is available in this institution, which renders its use difficult, although in case of necessity, as in carcinoma, we have taken our own material there for use. The use of irradiation, therefore, has been restricted to the sixty-two white women. Of these, sixteen were radiated, a ratio of one to three and six-tenths.

Table 5. MORTALITY

100 cases	One death
Mortality of series	1%
Mortality of Operative Cases	1.18%

We may fairly say that radium should be a part of the equipment of every clinic or hospital service which does any considerable amount of gynecological surgery. The decision, however, as to whether radium or surgery should be chosen for the management of these cases should be made by one who is able to use either one, and who, in consequence, can decide without prejudice. Most important of all, he should have sufficient experience in gynecologic diagnosis and pathology to be able to exclude from irradiation those cases which, because of associated lesions or size, are not suited for it. Radium should not be a competitor of surgery in the management of fibroids, but rather a collaborator. Satisfactory results from the use of radium will follow only with a careful selection of cases and a rigid exclusion of those for the treatment of which it is not adapted.

THE PROGNOSIS OF INTRACRANIAL TUMORS*

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In any discussion upon the prognosis in the surgical treatment of intracranial tumors it is necessary to establish several standards of measurement. In turn, the realization of these aims is dependent upon at least three important factors. The citation of statistical figures may be so interpreted as to prove what one wills. Therefore, today, following a brief and necessarily incomplete discussion of the question, I wish to show you motion pictures of patients whom I feel have met in part, if not completely, the requirements of our objectives.

It would appear to me that the results of operative interference in intracranial tumors should be judged upon, 1, the early or immediate fatalities; 2, the post-operative complications; 3, the ability of the patient to resume his social and economic position; 4, the relief and duration of the relief of suffering and particularly the avoidance of blindness, and 5, the prolongation of life. Mere numbers and percentages would convey but very little of the final results, so I will allow you to judge the results as you will.

The ability of the neurologic surgeon satisfactorily to meet these five prognostic dicta is directly dependent upon an early diagnosis of the lesion and the consequent early institution of surgical therapy; upon the character of the histologic structure and location of the tumor, and upon the type of surgical procedure employed.

It is beyond the scope of my aim today to enter into a discussion of neurologic diagnosis. It may be well, however, to emphasize that while the general symptoms of increased intracranial tension: headaches, vomiting and choked discs, are of diagnostic value, they are of no localizing significance and, moreover, are usually late in the chronology of the development of symptoms. When papilledema with the resulting secondary optic atrophy is present, the neurologic surgeon has already been placed at a distinct disadvantage in accomplishing his goal. Consequently, it is important to keep in mind the possibility of intracranial tumors. A complete, careful

physical and neurologic examination is, to our mind, the most important diagnostic procedure. While there are instances in which an accurate neurologic examination fails to localize a tumor, it is in these cases that the neurologic surgeon receives little practical aid from mechanical diagnostic procedure. Ventricular pneumography has very specific indications and we feel that a purely diagnostic procedure which has a direct mortality of ten per cent should be used with the greatest conservatism.

We have come to group intracranial tumors according to their histopathological structure rather than by their anatomical location. The pathology of intracranial tumors directly concerns the neurologic surgeon, since by the correlation of clinical findings and pathology will he be able to extend and limit his lines of prognosis.

This fact is particularly true of that group of intracranial tumors which arise from the embryologic spongioblasts and which are therefore essentially a proliferation of the supportive or glia tissue. The gliomas constitute about 40 per cent of all intracranial tumors. Some are rapidly growing, soft, infiltrating masses, whose boundaries are difficult to delimit from normal cerebral tissue. Some are slow growing, more firm and tend to encapsulate themselves. Others undergo cystic degeneration, a characteristic which has given rise to the term, cystic glioma. On the other hand a considerable number of these tumors remain rather small and circumscribed, and produce a large cystic cavity, the so-called gliomatous cyst. Many of these tumors, after having been accurately localized and attacked surgically are susceptible to radium and deep X-Ray therapy. Others grow rapidly if interfered with in the slightest manner. It may be of interest to you to know that in Cushing's series of gliomatous cysts the expectation of life after surgical interference is greater than in carcinoma of the breast, in spite of an operative mortality of 14 per cent. Seventy-nine per cent have survived three years and over, and seven per cent have passed the ten year limit. The introduction and use of the silver stains perfected by Cajal, Hortega and others make it possible thoroughly and accurately to study these tumors microscopically and to correlate their clinical course. In such a manner of study will we be able to progress in the surgery of the gliomas.

*Read before the Illinois State Medical Society, May 19, 1925. Quincy, Section on Surgery.

The first patient to be shown as having had a tumor which belonged to the group of gliomas is E. G., a chief operator for the telephone company. This patient had symptoms of ataxia, dysmetria, incoordination and vertigo which had been present for six months. In addition she had an inconstant nystagmus, more marked upon looking toward the right. These symptoms together with headache, vomiting and a low degree of papilledema were highly suggestive of a right cerebellar tumor. She was operated upon and a gliomatous cyst of the right cerebellar lobe was evacuated, the original tumor removed and as much of the cyst wall resected as was possible. This picture was taken five months after her operation and shows the complete absence of symptoms of cerebellar involvement. She has returned to her original occupation; is quite free from any symptoms as you see and her papilledema has entirely disappeared. A report from her manager states that she is doing excellent work.

The next patient, C. K., also had a gliomatous cyst of the right cerebellar lobe and whose symptoms of ataxia, dysmetria, incoordination, vertigo any nystagmus had seriously interfered with his profession as a teacher of violin. His first symptom had occurred a year previously and it was not until he had a bilateral papilledema of five diopters with beginning loss of vision that he was brought under observation. He was operated upon; the cyst was emptied and the cyst wall fixed with Zenker's solution. This picture shows the patient two weeks after operation. His ataxia is marked and he is unable to walk alone. His headaches had entirely disappeared. Examination two months later shows a decided improvement. The patient walks alone and by exercise is re-educating his extremities in the performance of finely co-ordinated movements. He has received one series of three deep Roentgen-ray treatments. I do not believe that this patient will be able to carry on his vocation again but I do believe that he will find his place in the economic and social world and will carry on.

The third patient is illustrative of the seriousness of allowing these conditions to go on uncared for until it is too late for surgical interference. M. B., a child of 13 years, was brought to the hospital with the advanced picture of a cerebellar destruction. Her first symptoms of ataxia incoordination and headache had occurred three years previously. At the time of observation this child was totally blind and was suffering from a constant severe headache. She also illustrates a surgical difficulty often encountered in these large tumors of the cerebellum. She was prepared for operation, anesthetized and turned upon her face into the cerebellar position. This procedure was immediately followed by the cessation of respiration. Her heart continued to beat for three hours but in spite of continuous artificial respiration she died. Upon autopsy a large soft glioma, which was cystic, occupied the entire left cerebellar hemisphere. The cerebellar tonsils were herniated down through the foramen magnum. The medulla was thin and broad and had lost all of its normal landmarks. The anesthetic proved to be the final load for the respiratory center. This patho-

logic herniation of the cerebellum into the spinal canal is commonly encountered at operation and constitutes a real surgical difficulty. Certainly we were asked to do the impossible in this case yet as late as it was the child deserved her opportunity. The lesson from the delay in this instance is obvious.

The patient, W. S., illustrates the unfortunate results which occur when some of the gliomata are attacked surgically or exposed to deep x-ray or radium therapy. This man first presented the symptoms of an irritative lesion of the right parietal cerebral cortex, in that he had sensory disturbances in his arm which ushered in localized epileptic seizures. He had the symptoms of increased intracranial pressure and a tumor was diagnosed. Upon operation a large plexus of cerebral veins, which were evidently engorged from obstruction, were disclosed over the left cortex. No definite tumor, however, was seen. The patient was later given intensive deep x-ray treatments. Within a month he had developed a left sided hemiplegia, hemianesthesia and hemianopsia plus terrific pain over the left half of his body which was characteristic of thalamic irritation. He rapidly deteriorated and died. The autopsy showed six separate well defined gliomas in the cerebral hemispheres. The largest was found in the area of the posterior limb of the right internal capsule and the right thalamus and explained the final development of his left sided symptoms.

The last patient of this group is L. R., who was operated upon ten days before this motion picture was taken. This patient complained of numbness in the left side of his face, diplopia, an incomplete aphasia and headaches. He exhibited a bilateral papilledema, a paralysis of the left fifth and sixth cranial nerves and a verbal aphasia. Exposure of the left lower frontal and temporal lobes showed a soft, undelimited, infiltrating glioma. A portion of the tumor was removed and a microscopic section proved the diagnosis. Two months have now elapsed and the patient is about although unable to carry on his work as a printer. His symptoms still persist but have not progressed. The papilledema has slowly decreased and the headaches have disappeared. The fact that surgical exposure and partial removal has been attended with so little untoward symptoms makes me believe that this patient may respond very well to the deep x-ray treatment which he is receiving.

The *adenomas* make up about 20 per cent of all intracranial tumors and for all practical purposes may be said to arise from the hypophyseal gland. The clinical pictures of the acromegalic and Froehlich's symptoms, due to involvement of the anterior and posterior lobes of the pituitary, respectively, are familiar. Pathologically the adenomatous tumor of the acromegalic is characterized by the abundance of cells containing eosinophilic granules, while the posterior lobe tumors show a predominance of basophilic granules. There are only two indications for surgical

interference in these tumors, despite the fact that they lend themselves so well to surgery. Those indications are (1) the loss of vision with an accompanying diminution of the visual fields and (2) headaches. Deep X-Ray therapy may prove of some definite help in these tumors without operation, but such is not the case at present. The surgical removal of these tumors with the almost immediate relief of the headaches and widening of the visual fields is one of the encouraging chapters in neurologic surgery.

L. K., a housewife, felt certain that she first began to have severe bitemporal headaches and blurring of vision one year previous to examination. The broad spade-like hands, prognathism, enlarged tongue and widely spaced teeth are, as you see, typical of acromegaly. The patient had ceased menstruating three years previously and was suffering from severe headaches. Her visual acuity was greatly diminished and she had a pronounced bitemporal hemianopsia. The x-ray plate of her skull showed a large sella turcica, whose floor protruded into the sphenoid air cells. The motion picture shows the patient four weeks after an adenoma the size of a large marble had been removed through a transfrontal osteoplastic flap. At this time the patient's headaches had entirely disappeared and her visual fields have become quite normal in outline. She is now carrying out her household duties, some six months after her operation.

A. O. is another example of acromegaly occurring in a female. The symptoms were identical with those of the previous patient. Loss of menses proves to be one of the earliest symptoms of acromegaly and in this patient had occurred four years prior to the onset of her severe headaches. This picture shows her condition on her tenth day post operatively. Her headaches have not recurred and her visual fields are already ten degrees wider. She should make an uninterrupted recovery and again take care of her household.

J. S. is a young man whose physical appearance is characterized by the feminine distribution of his pubic hair, by his large breasts, and tapering arms and legs. This patient gave a history of headaches and a loss of vision which had been present for at least two years, but had rather gradually disappeared during the past year. He still complained of excessive thirst and polyuria. His x-ray picture showed a large broad sella with a thinning of the clinoid processes. The floor was broken through into the sphenoid air cells. The patient showed a slight diminution of visual acuity and no visual field defect. This young man therefore illustrates the fact that headaches and visual field defects should constitute the surgical indications for the removal of pituitary tumors. This case also illustrates the fact that occasionally by eroding their way through the floor of the sella and into the sphenoid air cells, these tumors may provide a satisfactory local decompression for themselves.

The meningiomas comprise a group of tumors

which arise from the arachnoid membrane and from the arachnoid villi, in the region of the dural sinuses. They involve the cortical tissue only by contiguity and because of their circumscription are capable of removal in their entirety. These constitute 10 per cent of all tumors arising within the cranium. Their removal, as may be suspected, is at times a surgical difficulty. They are highly vascularized and their proximity to the sinuses makes them doubly dangerous. However, by the use of a method of blood collection and replacement during these operations, we are now able to deal with them more confidently. These tumors are typically endothelial in microscopic appearance and when removed in toto do not recur. They form a small but encouraging group of intracranial tumors and the patient may be returned to a real social and economic position.

H. B. is a good example of what may be accomplished when this type of a tumor is treated early in its course. Five years ago the patient first had localized convulsive seizures in the right arm. She had been gradually developing dispositional and habit characteristics foreign to her usual self. As a patient who had developed convulsive seizures in adult life she was suspected of having a brain tumor. At the time of examination she showed a bilateral papilledema of four diopters and had a slight increase of the deep tendon reflexes on the right side; diminished superficial reflexes on that side and a suggestive Babinski. The stereoscopic x-ray film of the skull showed an area of mottling in the right frontal bone which later proved to lie directly over the tumor mass. Often these tumors produce cranial hyperostoses or as in this case they erode the inner surface of the skull in an irregular manner. Upon operation a tumor weighing 98 grams was removed intact together with the portion of the dura mater to which it was attached. It is very important if one wishes to prevent a recurrence to avoid fracturing the tumor or leaving a small piece attached to the dura mater. This patient is taking care of her household duties and her three children. She has been quite well, has had no recurrence and shows no residue. Had this patient been allowed to go on without care it is problematical what the residual paralysis might have been.

Next in frequency of occurrence are the *neurinomas*, or more commonly termed tumors of the cerebellopontile angle. These tumors constitute 9 per cent of all intracranial new growths. These growths are benign in nature and arise from the sheath of the eighth cranial nerve. Microscopically these tumors are characterized by fibrous and reticular tissue, arranged in palisades and whorls. Because of their

benignity these growths should be recognized and referred to the neurologic surgeon as early as possible. The most important factor in the early diagnosis of the neurinomata is the chronology in the development of the symptoms. As these tumors increase in size and involve more and more of the cranial nerves and other structures found in the cerebellopontile angle they receive an added blood supply from the basilar vessels. This fact then often makes their removal in toto impossible, and it becomes necessary to split the capsule of the tumor and remove it piecemeal as completely as is possible. Since they are slow growing and benign, a complete resection en bloc is not absolutely necessary.

H. H. is a dentist by profession who began to have a peculiar and persistent buzzing noise in his right ear five years before he came for surgical aid. He then noted that he had lost his hearing in the right ear. In order of sequence he then developed difficulty in facial movements upon the right side and later a heavy, numb feeling over his right cheek which attracted his attention most forcibly when he shaved. He continued at his work however until he developed a distinct ataxia and loss of co-ordination in the right upper extremity. This so interfered with his work that he consulted a neurologist who correctly diagnosed the lesion and advised an immediate operation. It was not until two years later that he came under my observation and at that time his gait was distinctly swaying and drunken in character with deviation toward the right. He had the typical cerebellar type of nystagmus which you see in the picture. A sub-occipital craniotomy was performed and a neurinoma the size of a large English walnut was disclosed in the right cerebello pontile angle. The tumor was closely attached to the pons and was abundantly supplied from the pontine vessels. Consequently the capsule was incised and the tumor removed piecemeal. Upon the last examination six months after operation the patient has practically recovered from his ataxia and performs finely coordinated movements of the right upper extremity very well. His facial paresis and analgesia have improved but have not entirely recovered. This patient will not be able to resume his dental profession but is now earning his living and supporting his family as a truck gardener.

The next example of this group of tumors is H. O. from whom a similar tumor was removed four years ago. This patient's symptoms were practically identical with those cited above. Upon operation a large tumor was removed in its entirety since its surrounding attachments were fortunate. As you see the patient is quite well. He has carried on his work as a business man for the past three years without further trouble. The papilledema which he had at the time of operation subsided, leaving a secondary optic

atrophy. The visual diminution as a result is very well corrected by glasses.

Of the congenital tumors the craniopharyngeal pouch or *suprasellar cysts* are most frequent. These cysts arise from a malocclusion of Rathke's pouch in the embryo. They are characterized by the presence of cholesterol crystals in the yellow straw colored cystic fluid, and by their tendency to become calcified. This latter fact makes their diagnosis comparatively simple by a stereoscopic x-ray film of the skull. The results of surgical procedures in this group of tumors are quite similar to those obtained in cases of hypophyseal adenomata, although many times the complete removal of the cyst wall is extremely difficult and hazardous.

The granulomas, tuberculous and luetic in origin, the papillomas, which arise from the choroid plexus of the lateral or fourth ventricles and the ependymomas, which take origin from the ependymal living cells, make up a scattering group of intracranial tumors whose treatment is quite satisfactory. The papillomas are benign tumors which are usually cauliflower like in appearance. Their occurrence in the lateral recesses of the posterior fossa provides a tumor easily handled. The ependymomas are difficult to remove and experience has shown that they do well under deep x-ray therapy after surgical exposure.

The surgical treatment of intracranial tumors resolves itself into a direct attack upon the lesion by osteoplastic flaps and suboccipital craniotomies in cerebral and cerebellar growths respectively. The palliative subtemporal decompression operation is done comparatively rarely. This operation has a definite field, however, in tumors which are unlocalizable and in which it is highly desirable to save the patient's vision and relieve his headaches while waiting for localizing symptoms to become manifest.

F. M. was a young man who had definite symptoms of increased intracranial tension with a bilateral papilledema of four diopters. He had had several generalized convulsive seizures unaccompanied by *aurae* of a localizing nature. The motion picture shows the patient ten days after a subtemporal decompression had been performed. The papilledema has subsided to an elevation of one diopter and the convulsive seizures and headaches have disappeared. The patient has been at work at his occupation as a mechanic for five months and has been kept under close observation for the development of definite localizing symptoms. Upon

the first appearance of a symptom of localizing value the tumor will be directly attacked and in the meantime his vision has been saved from destruction and he has been relieved of his symptoms.

We feel therefore that the outlook for patients who have an intracranial tumor belonging to the groups of adenomata, meningiomata, neurinomata and the congenital tumors is very satisfactory. The majority of these patients may be returned to their social and economic positions with a residue of impaired function dependent upon the time in the course of their disease at which they are operated upon. Those patients suffering with tumors belonging to the group of gliomas have a less favorable prognosis. However, their situation as you have seen is not uniformly hopeless. The further progress in the surgical treatment of these tumors and their prognosis is dependent upon the careful microscopic study of these tumors and the correlation of the pathologic picture with the clinical symptoms and course of these tumors.

DISCUSSION

DR. LE ROY H. SLOAN, Chicago: Dr. Davis has given a very interesting presentation of the types of intracranial tumors. I am not interested in the surgical technic but purely in the diagnostic features of these tumors. We have long been taught that headache, nausea, vomiting and choked disc are the cardinal symptoms of intracranial tumors. They are the cardinal symptoms of tumors blocking ventricular circulation and giving rise to marked pressure. If anything is going to be accomplished for neurologic surgery it is early diagnosis. Early diagnosis may be based on one single detail such as the failure of the patient to recognize his fountain pen.

As to the prognosis, brain tumors such as gliomas, as Dr. Davis emphasized, offer a poor prognosis; endothelial tumors a good prognosis and likewise subtentorial tumors. In order to make the prognosis better, we must not wait for choked disc and other advanced signs but must base our diagnosis on the earlier features. The point of localization may depend upon a simple aphasia. A man may have such an aphasia early and this is of great importance to the surgeon later on. The chronology of symptom development—the sequence of events—this is what we must inquire into.

I think this has been a most splendid demonstration and has pointed out the cardinal features in the diagnosis and prognosis of intracranial tumors.

DR. LOYAL DAVIS, Chicago (closing the discussion): There is one thing I would like to add to what Dr. Sloan has said. We have a very definite method of determining pathologically just what these tumors are. There is a French school of neurologists

headed by Cohoul which has given us methods of determining the types of gliomas by the use of silver stains. These gliomas comprise the greatest number of brain tumors and are unfortunately the most difficult to handle. They are divided into three or four groups. The fibrous type is the one that encapsulates itself and can be attacked comparatively easy. There are ramifications which must be left. The meningiomas are benign and simply constitute a very definite surgical difficulty and problem to solve. The main thing, of course, as Dr. Sloan has said is early diagnosis. The early diagnosis, as he said, does not depend on headache, choked disc and vomiting, which has no localizing value and is not of importance to the surgeon.

AMEBIC DYSENTERY

A. A. GOLDSMITH, M. D.

CHICAGO

In our own climate, there is probably greater need of frequent discussion of *Amebiasis* than exists in the tropics, where this disease is an everyday occurrence. We have gradually come to appreciate that diarrhoeas of this type are by no means infrequent in the temperate zone and in no case of ulceration of the colon have we a right to rule out this etiological factor, without first having made a thorough examination for amœbæ.

In this discussion, it is not the purpose to enter into the historical side of this malady.

From an etiological standpoint it is well recognized that *Entameba Histolytica* is the only organism concerned. At times another form of amœba is found in the large bowel, but is no factor in the production of disease, this being, as you know, the *Ameba Coli*. The differentiation of these two organisms offers no difficulty to the expert working in the tropics. To us who see not over a score of cases yearly, there is some feeling of uncertainty. From the viewpoint of practical medicine, if we are dealing with a case of ulceration of the colon and find in the feces motile red-cell-containing amœbæ, we have a right to assume that it is the pathogenic variety; at least it is perfectly justifiable to carry out therapeutic measures along these lines. Walker, quoted by George H. Scott, offers the following microscopic differentiation of these two amœbæ:

*Read before the Chicago Medical Society, October 21, 1925.

MOTILE FORM

ENTAMEBAE HISTOLYTICA	ENTAMEBAE COLI
1. Appearance hyaline	1. Appearance porcelaneous.
2. Refractiveness more feeble..	2. Refractiveness more pronounced.
3. Movements active in fresh stools	3. Movements sluggish.
4. Nucleus more or less indistinct	4. Nucleus distinct.
5. Chromatin of nucleus scanty..	5. Chromatin of nucleus abundant.

ENCYSTED FORM

ENTAMEBAE HISTOLYTICA	ENTAMEBAE COLI
1. Smaller	1. Larger.
2. Cysts less refractive	2. Cysts more refractive.
3. Cysts usually contain elongated refractive bodies known as "chromidial bodies"	3. Cysts do not contain these bodies.
4. Nuclei never more than four..	4. Nuclei eight, occasionally more.
5. Cysts wall thinner.....	5. Cysts wall thicker.

The cysts are very important, as they are the means of transmission of the disease. Rarely, if ever, is the motile amoeba able to traverse the stomach without being killed. The more hardy cysts, are able to withstand the action of the hydrochloric acid of the stomach and travelling down to the intestines, set up the disease. Another very important fact is that after the motile amoebae have disappeared from the stools under treatment, cysts are very apt to remain and later lead to relapses. Also it is the means of propagation of the disease by means of carriers who are not suffering from dysentery. In one military camp in El Paso, Craig found among fifty-five apparently healthy men, nine carriers.

In looking for amebae in the stools, it is absolutely essential, that the specimen be examined fresh. In case the bed-pan is used, it should be previously warmed and it is imperative that there are no traces of antiseptic in the receptacle. The amoebae are very easily rendered immotile. The writer finds it more satisfactory to use either a colon tube, or preferably the stool remover of Cohnheim, as in this way we are assured of having fresh material. A warm stage for the microscope is not essential, unless the examination is carried out in a cold room. It is a good plan to have the laboratory window shut, unless, of course, the weather be unusually warm. If one desires it, he may occasionally direct a warm current of air upon the specimen, by means of a dental-insufflator. The main purpose of this discussion is to consider treatment and to emphasize the fact that this disease (which at times is cured with extreme ease) frequently either remains entirely uncured or a cessation of the dysentery is brought about only after a prolonged effort. We have at our

disposal a number of drugs which are distinctly amebicidal, and as a rule we have no difficulty in killing off the motile amoebae.

Ipecac probably ranks first in general efficiency. In 1910 Vedder in the army experimented with this drug and found it was strongly amebicidal. However the drug had been used in India by the English, long before this. It was used long before Lösch discovered the organism in 1875. It is supposed to have been used in South America long before it was brought to Europe by Piso, in the middle of the seventeenth century. It is said to have been used at the time of Louis XIV in treating the Dauphin. Rogers first utilized emetine hydrochloride and published his results in 1912. Naturally the great difficulty in taking ipecac by mouth is the nausea and vomiting produced. Just before the advent into medicine of emetine, salol coated pills were being made, and were of some assistance. Even now, S. K. Simon of New Orleans, uses pills of this nature. However, the majority of physicians prefer the use of emetine hypodermatically. The writer gives along with this, Aleresta Ipecac, a preparation which is not dissolved in the stomach. Major Callendar tells me he does not believe this internal administration is necessary and in the army he uses one grain of emetine hypodermatically in the morning and a half grain in the evening, thus making a grain and a half a day and this is continued until in all eighteen to twenty grains have been administered. At this time it is discontinued regardless of the clinical course, for fear of a toxic effect from the drug, which tends to accumulate. This undesirable action exerts itself chiefly upon the heart muscle and upon the nerves, a number of deaths having been reported. Major Callendar tells me also that at the completion of his treatment, the patient is advised to return at the end of a month, at which time cysts are looked for preferably in any small pieces of mucus that may be adherent to a formed stool. In case cysts are found, then the emetine treatment is re-established.

The writer has had no experience with Emetine Bismuth Iodide. This drug is said to be especially valuable in destroying the cysts. George R. Dowling, in an article in 1923, stated that he preferred this to emetine, because of the pain in the administration of the latter and on

account of the neuritis or weakness that may follow its use. However, these objections are probably not valid. The drug is given in doses not exceeding three grains a day on twelve successive nights and should be put into a gelatine capsule or in a paper cachet.

Chaparro Amargosa is a drug which has never attained great general popularity although it has been used as a domestic remedy for many years among the inhabitants of Mexico and south-west Texas. It has been stated that Zachary Taylor's soldiers used it during the Mexican War. The name of this plant means "bitter bush" and is a shrub growing about four feet in height and belonging to the family of *Simarubaceae*. It is probably best used in the nature of an infusion made by boiling samples from all parts of the bush (including the roots, top, branches, leaves and little red berries) from 30 to 45 minutes and after straining this infusion having the patient drink a glassful four times a day and at the same time once or twice a day take as large an amount per rectum as he can conveniently retain fifteen to twenty minutes. The exact strength of the infusion cannot be stated, but it should have the color of weak tea. It seems to be non-toxic. The writer has never seen a case in which this drug was used, that has not responded immediately to treatment, the diarrhea and the amoebae disappearing on the day following the beginning of this therapeutic measure. In spite of this, relapses have been very frequent. Some years ago, P. I. Nixon of San Antonio, reported twelve cases treated with this drug, with practically 100% recovery. In a personal communication from Dr. Nixon a few years later, he stated that a number of these cases had relapses after the article had been published.

In 1908, W. E. Deeks, working in the Ancon Hospital in the Canal Zone, began using bismuth subnitrate in heroic doses. His regime was as follows:

- (1) Rest in bed.
- (2) Generous milk diet.
- (3) Saline or plain water irrigations, 1 to 3 daily, purely for the purpose of lavage in order to clear the bowel of toxic products.
- (4) Administrations of bismuth subnitrate, giving a heaping teaspoonful, equivalent to about 180 grains, mechanically suspended in

almost a tumblerful of plain, or better still effervescent water, or in milk every three hours night and day in severe cases, lessening the amount when improvement was noted.

The writer has used it only in one case, that being in a patient who had not responded to emetine; the result was excellent.

The German School has recently placed great faith in a new drug known as *Yatren*. This is given in doses of fifteen grains in capsules or pills t. i. d. Also it may be given per rectum in 2½ to 5% solution, about 200 cc. The writer has had very little experience with this drug. It may be stated in passing that Neosalvarsan as well as Salvarsan has been used for amebiasis and within the past two years Marchoux of the Pasteur Institute has demonstrated the amebicidal property of a new synthetic arsenical preparation, known as Stovarsol. Foster M. Johns and S. Chialle Jamison of New Orleans have recently reported good results from this drug. They report excellent results in a series of forty-six patients. It is administered in doses of 7½ to 15 grains a day. It is claimed that in the use of this measure it is not necessary to restrict the diet, and rest in bed is not essential. In one case which was rebellious to emetine as well as Chaparro Amargosa and other drugs, Stovarsol immediately brought about relief. This patient is now having formed stools, one or two a day, without visible blood or mucus. However, the dejecta do still show cysts. This patient therefore, is apparently cured but is a carrier.

Before the days of emetine, quinine irrigations were used in most cases. These were started with a solution of 1-5000 and gradually increased up to 1-500. Although this method of treatment was quite effective, it has gradually given way to the newer drugs mentioned above.

Silver nitrate irrigations, starting with 1-2000 and running up to 1-500 were also used to some extent. This treatment however, was quite painful and the results not entirely satisfactory.

Anyone who has seen even a moderate number of cases of amoebic dysentery, soon realizes that the disease is subject to relapse and in many cases it will be necessary to run the entire gamut of our therapeutic scale. R. M. Gordon of Liverpool, stated that of 150 cases treated and observed for six months, 66% recurred.

Therefore, we should never be content merely

to have the dysentery cease and the motile amoebae disappear from the stools (which usually occurs with almost any of the recognized treatments mentioned above) but it is necessary to be on the watch for the encysted form of the parasite and the patient can never be considered as cured until after a rather prolonged period of observation.

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THE CHANGING ASPECTS OF DERMATOLOGICAL PRACTICE*

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The title of my address might seem an unnecessary one. No branch of medicine remains stationary, and our ideas on dermatologic subjects are undergoing constant revision, as are those of the fundamental medical sciences and all other specialties. Yet so striking have been some of the changes in the twelve years of my dermatologic experience, that it may be of interest to review these. My aim, as far as possible, will be to emphasize the changes that have found application in the practice of dermatology, rather than the more obscure questions of theoretical, even though scientific interest.

General Aspects of Dermatologic Thought. Perhaps a wholesome change has been the let-up in the description of new dermatologic entities. Apparently the unknown seas of dermatology have been pretty well charted out, despite the fact that the ambition of every dermatologist is to discover or describe a new dermatosis. I would not imply that there have been no new observations in our midst. As soon as our attention is called to a condition we immediately find similar cases. Witness the rediscovery of pellagra in this part of the world, of acrodynia, granuloma inguinale, epidermophytosis, erosio interdigitalis—to mention a few of the more recent discoveries. Greater energy has been shown during the last decade in the investigation of the etiology of the well-known skin disorders, and less attention paid to finer histologic study. Kyrle's new work on the "Histobiology of the Skin" emphasizes the tendency to get away from pure morphology. More accurate ideas on etiology will bring a greatly needed simplification of our

nomenclature and a better classification. Such papers as the recent one of Engman and Weiss, in grouping together the erythema group of skin eruptions, is a step in the right direction. An effort to internationalize dermatologic names would be most welcome. It would obviate such acrimonious, now historic, discussions on the identity or non-identity of pityriasis rubra pilaris and lichen ruber acuminatus. Text-books still contain many obsolete names that are only of historical interest. Simple terms like tuberculid should replace the many confusing synonyms that are found in the literature.

Change in Dermatologic Material. The last decade, according to my observation, has witnessed a gradual change in the type of dermatologic material that comes to us, and a decided revision of our diagnostic concepts. Perhaps my impression of the frequency of various skin diseases seen in private practice is based on faulty premises, but I feel certain that changes in the mode of life and habits of our population, particularly in their external contacts, along with improved hygienic conditions, dietetic habits and possibly a gradual change in climatic conditions, have been the responsible factors. For instance, I have noticed a tendency for the recurrences in old-standing psoriatics to become milder—a circumstance due, I believe, to our stressing the importance of sunshine as a prophylactic, to dietetic restriction, and perhaps to our less rigorous climate. Pityriasis rosea, which we formerly associated with the spring and autumn seasons, is becoming far more prevalent and is seen at all times of the year and in all classes of society. Its mode of dissemination and etiology are as little known as ever. Lichen planus appears to be on the increase—the stress and strain of modern life, the increased tension due to living in a "world on wheels," I believe may account for this. The neurodermatoses, Brocq's conception of which has been so ably presented to us by Wise, have certainly multiplied. Formerly it was our custom to diagnose a neurodermatitis located at the nape of the neck as an eczema nuchae, or that found in the elbow bends as a flexural eczema. The disseminated type so often seen in association with bronchial asthma, hay fever, or due to some protein sensitization, we formerly classified as eczema nervosum. In fact, the entire group of concepts designated "eczema" has undergone a marked restriction, and eczema

*Presidential Address before the Annual Meeting of the Chicago Dermatological Society, January 20, 1926.

as a diagnosis is disappearing. As a clinical condition, implying a catarrhal inflammation of the skin, it has not diminished. No up-to-date dermatologist denies the impossibility of differentiating, clinically and pathologically, an eczema and dermatitis—and in the minds of some of our Eastern colleagues their identity has been amply proven. Here in the West we still find that eczema is a real and baffling problem and constantly before us. Infantile eczema, or dermatitis if you prefer, appears to be diminishing in severity and frequency, possibly because of improved methods of infant feeding and hygiene, or due to the fact that these cases are looked upon as belonging more legitimately to the province of the pediatrician. There has been, to my mind, a tremendous increase in the number of dermatoses due to external irritants of chemical, physical or botanical origin. Witness the fact that at each of the last two sessions of the American Medical Association there has been a discussion on the harmful effect of cosmetics on the skin. The recent questionnaire on the occurrence of dermatoses from dyed furs, garments, hair dyes, and so forth, is also of significance. A bizarre and unusual type of external irritant was exemplified by the epidemic of Japanese lacquer dermatitis that came to our attention in the early days of the popularity of Mah Jong. Greater care on the part of manufacturers has eliminated that disorder. The list of occupational dermatoses is also becoming a long one, as a perusal of Prosser White's latest edition will show. We are constantly seeing cases of procain dermatitis in dentists, formaldehyde dermatitis in physicians and nurses, anilin dye and paraphenylenediamin dye poisoning, to mention but a few of the long list.

Newer Medicinal Eruptions. A new and interesting group of medicinal eruptions has made its appearance. Notable for their variety and frequency are the arsphenamin examthems. Our experience at the Cook County Hospital with the exfoliative type has been unusually large. In six years there have been close to fifty cases, of varying severity. Of great interest are the fixed exanthems produced by phenolphthalein and antipyrin. These peculiar bluish, macular eruptions were undoubtedly diagnosed as erythema perstans before we recognized their nature. I have also observed several cases of urticaria caused by the over-ingestion of phenolphthalein

preparations. Among the more recently introduced drugs which may produce diverse eruptions should be mentioned phenobarbital, medinal, adalin, cincophen, pyramidon, and others. (Wise and Parkhurst.)

Newer Mycotic Skin Diseases. In the group of mycotic skin diseases there have been many notable changes. Ten years ago it was not uncommon for us to label a tinea cruris as an erythrasma, although we now know that the *Microsporon minutissimum* is not found in this part of the world. The old term "eczema marginatum" has been abandoned since the *epidermophyton inguinale* has been identified as the etiological factor in this disease. Tinea infection of the feet has become almost an epidemic among our male population. The ubiquitous *epidermophyton* seems to be generously planted around our golf clubs, shower baths, swimming pools, athletic clubs and gymnasiums, and at least 25 per cent. of our male adults become infected at one time or another. C. J. White has recently reviewed the entire literature on this subject and emphasizes the widespread and varying eruptions produced by this organism. It does not seem improbable that it may be a normal inhabitant of the human skin in various localities, and under the influence of heat, moisture, sweat and unhygienic conditions becomes pathogenic. It appears to be most active in hot weather. In former years these cases were classified as "parasitic eczema." Today they are variously called "eczematoid ringworm," "epidermophytosis," or simply "phytosis." The other types of ringworm are still seen more commonly in dispensary practice, although I have recently seen several cases of *trycophyton* infection of the glabrous skin contracted from animals. Our knowledge of the various types of ringworm fungi found in this country, their cultural and immunologic reactions, has been greatly increased by the observations of Hodges, Weidman, Klauder, Greenbaum, Hopkins, Mitchell, and others. The discovery of *trichophytids*—eruptions produced by the toxins of the organism, or possibly as the result of treatment, is comparatively recent. Even the existence of *epidermophytids* and *microsporids* is being reported. *Dyshydrosis* is another diagnosis seldom made today, since *mycelia* are found in the roofs of the vesicles in a large proportion of cases. The type of yeast infection in this part of the

country is changing. Blastomycosis is less common and rarely becomes systemic. In six years we have observed only one systemic case at the Cook County Hospital. On the other hand, our interest in pathogenic yeasts has been stimulated by their identification in cases of erosio interdigitalis, in paronychias and intertrigos. An interesting experimental observation is that of Jessner and Kleiner. They obtained positive cultures of yeasts (sprosspilze) from 59 per cent. of 150 patients from scrapings of normal nails. With these apparently saprophytic organisms they reproduced erosive lesions in the interdigital spaces by scarification and maceration of the skin in a large percentage of cases. These observations show that possibly many harmless fungi may be cultivated from the skin which, under favorable conditions, become pathogenic.

Altered Character and Course of Syphilis. The syphilitic material that comes to the dermatologist has undergone a perceptible change. Someone has already referred to the early skin eruptions of syphilis as "vanishing lesions." They surely are vanishing in private practice, and even primary lesions have become rare in the better classes of population. On the other hand, the proportion of extragenital chancres is more nearly approaching that of the genital type. In clinics and dispensaries, and on the venereal service of the Cook County Hospital, there has been no decrease in the number of genital lesions of all kinds. The explanation of this condition of affairs is easily found. The syphilitic material among the poor and middle classes has gradually shifted to dispensaries, clinics and semipublic institutions. In private practice we see principally late cases, asymptomatic cases, with or without positive Wassermann reaction, visceral and neurosyphilitic types, and occasionally tertiary skin lesions. Finger has offered an interesting biological hypothesis to account for the altered course that syphilis is presenting today. No longer does syphilis run its course as a "skin disease" with predominating cutaneous, mucous membrane and osseous lesions, as it did in the latter part of the 19th Century, when the chronic, intermittent mercurial treatment was in vogue. Since 1910 the picture of the disease has changed. Late nodular, ulcerative and destructive gummatous skin lesions have become a rarity in patients treated with modern arsphenamin therapy. On

the other hand, tabes, paresis, and aortitis, in other words, visceral syphilis, has become the predominant late type of the disease. Finger explains this not by assuming special neurotropic and dermatotropic strains of spirochetes, as certain American investigators have done, but as being the result of modern arsphenamin therapy. He stresses the importance of the skin as a protective and immunizing organ, and thinks that the proliferation of the specific virus in the skin may protect the individual from later invasion of the central nervous system. Whether Finger's assumption is correct or not cannot be decided without watching for many years the fate of large numbers of patients treated early in the course of the disease, with intensive treatment, according to the modern standards. The great drawback to Finger's argument is the fact that early diagnosis and intensive treatment in the primary stage will give a certain percentage of abortive cures, although we have learned in the last few years to be cautious in our interpretation of "cure," especially in view of Warthin's pathologic data. One good lesson that we have learned is the value of spinal fluid tests in prognosticating the future welfare of our patients.

Dermatology and Internal Medicine. The relationship of dermatology to internal medicine has undergone an interesting transformation as a result of modern investigations. There has come a growing conviction among dermatologists that we must abandon the old Vienna idea of looking upon the integument as quite different from the rest of the body. The important studies on blood chemistry, the demonstration of nitrogen retention in psoriasis, of uricacidemia in many cases of eczema and pruritus, of hyperglycemia in certain skin diseases, have shown the relationship of various dermatoses to changes in the blood stream. In addition, there has been an intensive study of cutaneous sensitization and anaphylaxis in urticaria, eczema, and other skin disorders, of focal infection in lupus erythematosus and alopecia areata, and a large number of observations on the relation of the ductless glands and skin changes—especially pigmentary disorders, scleroderma, hirsutism and vitiligo. The day apparently is at hand when the dermatologist will have to use every modern laboratory aid and method of investigation when confronted with an obscure skin disorder. Even in such a common condition as acne vulgaris a more care-

ful study of the gastrointestinal and endocrine function, including gastric analysis, basal metabolism, stool examinations and a roentgenological study is desirable for scientific accuracy. Cooperation with internists who are better equipped for these diagnostic studies is necessary before rational therapy, which properly belongs to the dermatologist, can be undertaken. In acne rosacea, again, it is my firm conviction that we have looked upon the cutaneous phenomena in too narrow a light. We content ourselves, as a rule, with spiriting the eruption away with local applications, roentgen-ray or quartz light, without considering the underlying causes. I have seen too many patients with acne rosacea succumb to sudden heart attacks to believe that the occurrence of this condition in those past middle life is not a danger signal, an indication of circulatory changes, weakening of the heart muscle, and so on. The assistance of the cardiologist, careful blood pressure estimations—which, in my experience are usually low, and electrocardiographic study are urgently needed in this type of case. Again, it is hardly necessary to point out that the most trivial dermatologic complaint, such as pruritus, may be an early symptom of severe organic disease, diabetes, leukemia, pseudoleukemia, or hyperbilirubinemia due to stasis of bile, even without clinical jaundice. An innocent-looking submammary intertrigo frequently is treated as a local process when a diabetes is the cause. Similarly, the condition known as “burning tongue,” so often looked upon as a neurosis, may be the first symptom of pernicious anemia. These are but a few observations to illustrate how carefully the dermatologist must interpret cutaneous phenomena, and how close the relationship is between internal medicine and dermatology. As Highman has stated, the dermatologist of the future may be the internist who knows the skin.

Changed Status of Physical Therapy. In the field of therapy the last decade has witnessed many innovations in the practice of dermatology. As in other fields of medicine there has been a definite shifting to physical and electrical methods of treatment. Roentgenotherapy in skin diseases has become established on a surer and more scientific foundation through the epoch making investigations of Sabouraud and Noiré, Adamson, MacKee, Witherbee and Remer. The greatest fruition of the Coolidge tube and the

MacKee formula of treatment has been found in the single dose epilation treatment of ringworm of the scalp. With the old fractional dose this was a hazardous undertaking. I can still look back upon the days when we were treating hypertrichosis with small doses of roentgen-rays, and when practically all dermatoses, more or less empirically were subjected to frequent, repeated doses of roentgen-rays. Today we have at least learned the limitation of the roentgen-ray—we are more strict in defining the indications for treatment, we are more certain and accurate in our dosage and we have learned to avoid the serious late sequelae. The increase in voltage has brought no benefit to the dermatologist, to whom filtration and depth penetration are not of paramount importance. It may be pertinent to inquire whether the results of treatment with the Coolidge tube and modern interrupterless transformers are better than with the older gas tubes and mercury interrupters. The answer to this question will vary. Those who were expert and experienced with the older technic secured marvelous results. I myself have seen results with epithelioma, lupus vulgaris, sycosis and acne that I have not been able to improve upon with the Coolidge tube. In sycosis, for instance, Coolidge therapy, even with the epilating doses, has not been as effective in my hands as repeated short exposures to the softer rays of the gas tubes. Certain forms of eczema, lichen planus and psoriasis seem to me more resistant to Coolidge therapy. Many of us have been unable to verify MacKee's favorable results in the treatment of verruca vulgaris. In epithelioma the massive dose method has not materially improved the percentage of permanent cures. Today we can discern again a tendency among roentgenologists to return to the divided, or saturation, method of dosage. Remembering the biologic fact that the carcinoma cell is in a constant state of cell division, it seems more logical to use broken doses up to the point of saturation in combating malignancy.

The increasing use of radium and its lessened cost has popularized this method of therapy in our practice, and has further displaced the roentgen-ray in many instances. Even with a modest equipment of plaques and tubes, most basal cell epitheliomas, keloids, vascular nevi, verrucae, and a few localized dermatoses can be successfully handled. Direct intratumoral intro-

duction of radium emanation seeds has opened up a new field of therapy in carcinoma of the tongue and mouth.

The actinic or ultraviolet light in the form of the Kromayer and Alpine sun lamps has become a useful adjunct in dermatologic equipment. The indications and limitations of this form of treatment are now matters of common information.

Other useful additions to our physical armamentarium are the electrocautery and surgical diathermy—monopolar and bi-polar, in the destruction of accessible new-growths.

Present-day Treatment of Syphilis. The treatment of syphilis has radically changed since 1910. The prolonged, intermittent mercurial treatment of the last century has been replaced by the intensive arsphenamin therapy of the present day. I can recall the days when an arsphenamin injection was considered almost a major surgical procedure, for which patients frequently were hospitalized. Today the use of neo-arsphenamin in concentrated solution has become a simple office procedure. That the ideal antisymphilitic has not yet been realized is shown by the multiplicity of the arsphenamin preparations on the market, by the many newer mercurial compounds, and by the advent of bismuth therapy. There is still no standardized method of treatment, and there is great difference of opinion among authorities on every phase of the treatment. The treatment of neurosyphilis has shown a bewildering series of therapeutic shifts, beginning with the Swift-Ellis method, the Ogilvie-Fordyce technic, intraspinal mercury, spinal drainage, arsphenamin plus hypertonic salt solution intravenously, and recently tryparsamide and malarial inoculation. From the experimental side Pearce and Brown have recently emphasized again the importance of thoroughly understanding the mode of action of our potent spirocheticidal drugs, and the danger of overwhelming the patient's natural processes of resistance by too intensive therapy. Finger, also, as the result of long-continued observation of patients treated by modern methods, is inclined to doubt the specific action of our modern antisymphilitics, and believes that dietetic and hygienic measures (so-called roborant measures) are being neglected. In his clinic Kyrle has attempted to improve their results by supplementing the usual mercury-salvarsan therapy with nonspecific means—at first by a combination of

various fever producing agents, foreign proteins and typhoid vaccine; more recently by malarial inoculation combined with arsphenamin. In several hundred patients with positive biological reactions in the blood and spinal fluid, he secured in a large percentage permanently negative reactions over a two-year period by this means.

Intravenous Therapy. The popularization of the intravenous route has opened up an important method of therapeutic approach. Among drugs that are used in this way we may mention sodium thiosulphate, of great value in preventing and treating the dangerous cutaneous and hepatic complications of arsphenamin therapy; sodium salicylate, which is, unfortunately, of only temporary benefit in psoriasis; the use of sodium chlorid in bromid exanthems, and tartar emetic, and Randall's new antimony compounds in granuloma inguinale. Intravenous mercurochrome has been recommended by Young in furunculosis, erysipelas and other skin infections. I have seen an extraordinary therapeutic result in one case of lichen planus bullosus and have seen improvement in several cases of pemphigus following its use. The hitherto hopeless situation in pemphigus has been vastly improved by the combined use of iron cacodylate and coagulen (Davis treatment). Among other newer remedies insulin has proved of value to us chiefly in the cutaneous complications of diabetes, such as xanthoma diabeticorum, pruritus, and possibly in other skin conditions associated with hyperglycemia. Recently its use has been recommended in leg ulcers. A valuable discovery has been that, by Stokes, of arsphenamin in tuberculids. The treatment of leprosy has been greatly improved by the hypodermic use of the ethyl esters of chaulmoogra oil.

Biologic Therapy. In the field of biologic therapy we have all noticed a lessened interest in specific vaccines in the last decade. Few of us still use vaccines in acne vulgaris, and outside of staphylococcic infections they seem rarely indicated. Instead, nonspecific vaccines and foreign proteins have been added to our therapeutics. The intravenous injection of vaccines, the so-called "shock treatment," is not destined to become popular. The injection of milk, turpentine, peptone and other agents parenterally is thought to stimulate the defensive properties of the body, either by a leukocytosis or mobiliza-

tion of ferments. The last word on this phase of biologic therapy has not been written. The wave of enthusiasm for autoserum therapy has apparently run its course, although a few men still claim that it will inactivate an acute psoriasis and will be of benefit in Duhring's disease.

Conclusions:

1. The present trend of dermatologic investigation has become more etiologic, and less morphologic.
2. A closer relationship to internal medicine is discernible.
3. Fungi and external irritants have assumed greater importance as etiologic factors.
4. Skin diseases of "nervous" origin are apparently on the increase.
5. The character and course of syphilis have changed since the introduction of arsphenamin.
6. Intravenous medication and non-specific therapy have superseded many of the older methods in our practice.
7. Physical therapy presents a changing aspect today.

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LUDWIG'S ANGINA—A REPORT OF 23 CASES*

From the departments of oral surgery and otorhinolaryngology,
(Cook County Hospital.)

C. F. YERGER, M. D.
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The first accurate description of this much-dreaded disease, which was based upon pathological and clinical observations, was made by Ludwig in 1836, although the disease had been recognized and described previously.

The most important modern contribution to the literature of Ludwig's angina was made by Thomas of Philadelphia in 1908, from whose studies I have freely drawn in the preparation of this paper.

"Ludwig's angina is a rapidly spreading cellulitis beginning in the region of the submaxillary salivary gland as a perilymphadenitis and extending to the floor of the mouth and pharynx."¹

It occurs most frequently in males between the ages of 20 and 30; the primary focus of infection is most commonly some dental or periodontal disease, as caries of a lower wisdom or molar

tooth, alveolar abscess or infection following extraction; it also follows throat infections, as septic sore throat, Vincent's angina, tonsillitis and peritonsillitis, ulcer of the tongue or floor of the mouth. The exciting cause is invariably the streptococcus, either alone or associated with other bacteria, especially the staphylococcus, but it may be the latter alone.¹

A consideration of the surgical anatomy of the region involved is important because upon this to a great extent depends the pathology. The floor of the mouth separates the cavity of the mouth from the neck and is formed by the mylo-hyoid and genio-hyoid muscles. The middle constrictor of the pharynx joins with the posterior border of the mylo-hyoid between which lies the submaxillary salivary gland. One-third of the latter lies beneath the mucosa of the floor of the mouth, while the remainder is located in the submaxillary triangle of the neck. The floor of the mouth contains the lingual vein and nerve (the lingual artery lies upon the under surface of the tongue), ranine artery, sublingual salivary gland and duct, and the submaxillary duct. Thomas¹ showed that the connective tissue in the submaxillary fossa is directly continuous with that in the floor of the mouth; this explains the early and constant extension of a submaxillary cellulitis to the sublingual region.

All points pertaining to the pathogenesis and pathology have not yet been solved; in order that this may be accomplished, necropsies should be obtained in all fatal cases. Some of the points in dispute are, 1, Is the pathological process solely a cellulitis? or 2, Is it primarily a lymphadenitis and secondarily a cellulitis? 3, Is the cellulitis situated primarily in the submaxillary or in the sublingual region? and 4, the cause of death.

According to Thomas¹ the bacteria reach the submaxillary lymphatic glands from the primary source of infection through the lymphatics and cause a lymphadenitis and periadenitis with extension into the cellular tissues and the production of a cellulitis. The cellulitis spreads with great rapidity from the region of the submaxillary lymph and salivary gland around the posterior border of the mylo-hyoid to the floor of the mouth. While the submaxillary salivary gland may become secondarily involved, necropsy

*Read before the Quincy Meeting of the Illinois State Medical Society, May 20, 1925, Section on Eye, Ear, Nose and Throat.

1. Thomas, T. T.: Ludwig's Angina, *Annals of Surgery*, Feb. and March, 1908.

has shown no case in which it was primarily involved.

The submaxillary cellulitis is deep and is limited by the deep fascia which is attached to the mandible and hyoid bone; it, therefore, spreads in the path of least resistance which is posterior to the muscular plane of the floor of the mouth and between it and the submaxillary salivary gland to involve the cellular space of the floor of the mouth. The great majority of cases in the literature confirms Ludwig's observation that the cellulitis originates in the submaxillary region and secondarily involves the sublingual region. Gangrenous destruction in the submaxillary region may occur, as was first noted by Ludwig. It is caused by the increased virulence of the infection, due to the increased tension of the tissues together with interference with the blood supply.

The disease commences as a painful, tender, indurated swelling in the submaxillary region; within 12 to 48 hours, the floor of the mouth becomes raised by an indurated swelling and the tongue is pushed upward and backward against the roof of the mouth; the mucosa of the floor of the mouth may be elevated to the level of the free edges of the lower teeth. Speech and deglutition become difficult; the patient may be able to open the mouth with difficulty. When trismus is present, it is difficult or impossible to properly examine the buccal, pharyngeal and laryngeal cavities. The salivary secretion is markedly increased, causing the saliva to dribble. Dyspnea, insomnia, prostration or delirium may be present. Fever may be present or absent. If both sides of the neck are involved, the pressure symptoms as the result of involvement of the pharynx and larynx are intensified.

Ludwig's angina should not be diagnosed unless there is present a sublingual phlegmon in addition to the submaxillary phlegmon, and the cases in which the phlegmonous process begins in the throat in the immediate vicinity of the larynx should be excluded. In every case, the finger should be introduced between the teeth and by it the swollen, indurated and inflamed floor of the mouth felt. Ludwig's diagnostic points were the woody submaxillary swelling, the hard sublingual swelling forming a ring just within the lower jaw, the sharp limitation of the indurated tissues and the slight or more often lack of involvement of the glands, although the

inflammation attacks the connective tissue around the glands.

Submaxillary cellulitis is the only condition that could be confused with Ludwig's angina; in the latter not only a submaxillary cellulitis is present, but also a sublingual cellulitis is present. Therefore, the diagnosis of Ludwig's angina is easy. Submaxillary adenitis and osteoperiostitis of the lower jaw ought not to offer any difficulty in the differential diagnosis.

The prognosis depends upon the time at which surgical treatment is instituted, the earlier the better. Operation should not be delayed until the inflammatory process has reached the larynx or until both sides of the neck become affected. Thomas¹ in a study of the literature of 106 cases found the mortality was 40 per cent. Death was usually due to edema of the larynx or bronchopneumonia and in rare cases to sepsis.

The treatment of Ludwig's angina is surgical and if it is to be successful it must be done early. The objects of surgery are, 1, to relieve the tension of the tissues; 2, to provide an avenue of escape from the tissues of the infecting bacteria and their toxins, and 3, to drain any collection of pus present.

Local anesthesia should be used in these cases because a general anesthetic should never be given to a patient who is dyspneic or who is liable to become dyspneic.

The incision should be made beneath and parallel to the lower jaw over the submaxillary salivary gland; this will freely expose the region of the submaxillary lymphatic glands and will usually locate pus if it is present. However, if there is a collection of pus in the submental region a median suprahyoid incision will evacuate it. If no pus is found, the sublingual region should be investigated; this is done by dividing the mylo-hyoid and searching the cellular spaces of the floor of the mouth. If the original focus of infection is accessible it should be removed if possible as an alveolar abscess drained or a carious tooth extracted. If dyspnea is present, due to edema of the larynx, a tracheotomy but never an intubation should be done.

Of 50 cases admitted to Cook County Hospital where were diagnosed as Ludwig's angina, but 23, or 46 per cent could be classified according to Ludwig's definition. The mortality was 43 per cent. Tracheotomy was done in three cases. The proportion of males to females was 10 to 1;

age ranged from 7 to 56 years, the great majority of the cases were evenly distributed among the third and fourth decade. Bad dental hygiene was by far the most common cause; sometimes it followed extraction of a lower molar. In all of the 23 cases, there were associated a woody phlegmon, in the submaxillary region, swelling of the floor of the mouth and dysphagia. In 33 per cent of the cases, dyspnea was present in varying degrees.

Necropsies were obtained in but two cases of the nine cases that died. In one case, the clinical examination showed a large hard tumor mass situated below the angle of the jaw and a swollen floor of the mouth; necropsy showed a suppurative cellulitis of the right submaxillary triangle with edema of the tissues of the right anterior triangle of the neck and anterior mediastinum. In the other case, no clinical examination was made, as the patient died soon after entering the hospital; necropsy showed edema of the tissues of the neck and chest, phlegmonous lymphadenitis and edema of the glottis.

1100 West Madison Street.

DISCUSSION

DR. H. C. BALLINGER, Chicago: I don't know why I was asked to discuss this paper, as my experience is limited to three cases and, of these three, two did not fill Ludwig's original definition, that is, a cellulitis of the mouth with swelling and a submental swelling. However, the third case was of that type, secondary to carious teeth plus accompanying influenza. This particular case recovered without surgery.

However, I agree with Dr. Yerger when he states that, if you have a case of this kind, early and free incisions should be made, in view of the published mortality of about 40 per cent.

There is one point, however, in etiology which he did not mention, which to me as an etiological factor appears important, and that is the lingual tonsil and some of the adjacent lymphatic structures. It seems to me this would be a prolific source of infection for the tissues of the mouth.

DR. CHAS. M. ROBERTSON, Chicago: Ludwig's angina is one of the most difficult diseases to treat in laryngology. The death rate at 40 per cent is the minimum. I would say that real Ludwig's angina should be placed higher than 40 per cent.

There is one particular thing that we ought to bear in mind in treating Ludwig's angina. It is not a superficial ulceration, an abscess of the tissues near the external part of the body. It is a deep cellulitis, and that has a significant meaning.

I have seen so many cases opened under local anes-

thesic where the operation was a failure. If you cut less than the deep cervical fascia, you do not reach the abscess, and that is the main reason why you have so many laryngeal complications.

The infection is deep and spreads easily to the deeper tissues, so that, in a true Ludwig's angina, you have to go, in your dissection of the neck, down almost to the mucous membrane of the digestive tract.

In the lesser cases, Ludwig's angina is not, as he would lead us to believe, submental, a little cellulitis. The whole side of the face, the whole side of the neck, is just as solid as a piece of stone.

When you attempt to use a local anesthetic in a cellulitis that is tense, that is filled full of infectious fluid, you can't get a local anesthesia that amounts to anything. Therefore, if you must do a tracheotomy, you should have a general anesthesia, because this means that you are going to dissect the neck clear to the mucous membrane.

I have had some success in the less severe types in the application of Credé's silver ointment. That is an antiseptic that is absorbed deeply into the tissues. It is applied to the neck on gauze, as thick as you would put on butter, and it is kept there 24 hours a day.

I have seen a few superficial cases of Ludwig's angina with a small amount of fluctuation but containing a surprising amount of pus. But most of these cases are so deep that you don't get fluctuation.

Nearly all the cases I have seen are epidemic cases from the "flu," which are less severe than the cases in which the patient has old, dirty, carious teeth. It may come from a neglected mouth with good teeth, but nearly every case I have seen has been in cases where they have old, deteriorated, loose teeth, and foul mouths.

Of course, you must give the supportive treatment with it, the anti-infectious supportive treatment.

When I am called in and find a Ludwig's angina, I feel almost as helpless as I do if I have meningitis to treat.

DR. G. C. OTRICH, Belleville: The most fatal cases of Ludwig's angina that I have met with in the past years, I believe, have been those following a mixed infection with or following diphtheria.

As a rule, we don't see these cases until the edema is pronounced.

I recall five young women from the ages of 18 to 23 or 24, and operated on three of them, making wide and deep incisions. We did a tracheotomy, also, in three. As I recall, one of them lived.

DR. FRANK L. ALLOWAY, Champaign: A case came to me, and we took an x-ray and found quite an inflammation of the mastoid cells. The patient was operated upon for a mastoiditis. The patient continued to run temperature. Four months afterwards the patient was taken sick again and died.

I called in a consultant just before the death, and he said: "You have a case of Ludwig's angina." Treatment was of no avail.

DO YOU REMEMBER WAY BACK WHEN—

Everybody drank from the old tin cup that hung on the town pump.

A roller towel in the hotel washroom accommodated all comers.

Two thousand people died in Illinois every year from typhoid fever.

The health officer's chief job was to inspect alleys and back yards for garbage and dead animals.

The state board of health existed principally for the purpose of examining and licensing physicians.

There were no chiropractors or osteopaths.

Nobody ever thought of registering a birth anywhere but in the family bible.

Children's diseases were regarded as the angry visitations of a Divine Providence.

Lots of folks thought that a buckeye in the pocket would prevent rheumatism.

Some mothers knew that a red flannel undershirt and a string of asafetida around the neck would protect children from diphtheria and other contagions.

Nearly everybody had smallpox at some time during life. Now you don't and that's probably why you haven't been vaccinated.

Running water in the house, a bath room and a toilet were looked upon as luxuries for the very rich.

Consumption was an incurable disease and folks who had it were advised to go west—which they usually did.

Patent medicines, consisting mostly of alcohol under a trick name, were advertised and sold as a cure for everything from an ingrown toe nail to appendicitis.

The legislature felt that \$4,000 or \$5,000 was a generous annual appropriation to the state board of health.

Nobody ever suspected that the application of preventive medicine might save the state a heavy institutional expense.

Milk was milk and nobody cared a hang where it came from.

Soothing syrup and pacifiers were standard home remedies for infants.

Sober Brother: "I've come to bail you out."

Drunk Brother (in jail): "You don't—hic—need—to bail me—hic—out, I'm not full."

"What's the matter, old boy?" asked Jimmie's friend. "I've never seen you looking so seedy."

"I've got to go abroad at once," remarked Jimmie gloomily.

"Nonsense! These doctors mustn't frighten you out of your life like that."

"It wasn't a doctor. It was a lawyer."

A druggist can truthfully say that a woman's face is his fortune.—*Charleston Gazette.*

THE RECIPROCITY OF SMILES

BY JAMES W. FOLEY

Sometimes I wonder why they smile so pleasantly at me,
And pat my head when they pass by as friendly as
can be;

Sometimes I wonder why they stop to tell me How-d'-do

And ask me then how old I am and where I'm going to;
And ask me can I spare a curl and say they used to
know

A little girl that looked like me, Oh, years and years
ago:

And I told Mamma how they smiled and asked her why
they do,

So she said if you smile at folks they always smile at
you.

I never knew I smiled at them when they were going by,
I guess it smiled all by itself and that's the reason why;
I just look up from playing if it's anyone I know,
And they most always smile at me and maybe say

Hello;

And I can smile at anyone, no matter who or where,
Because I'm just a little girl with lots of them to spare;
And Mamma said we ought to smile at folks and if
you do

Most always they feel better and they smile right back
at you.

And when so many smile at me and ask me for a curl,
It makes me think most everybody likes a little girl;
And once when I was playing and a man was going by,
He smiled at me and then he rubbed some dust out of
his eye,

Because it made it water so, and said he used to know
A little girl up in his yard who used to smile just so;
And then I asked why don't she now and then he said,
"You see—"

And then he rubbed his eye again and only smiled at
me.

(Published by E. P. Dutton & Co.)

"Deacon White," said Parson Jackson, softly, "will
you lead us in prayer?"

There was no answer.

"Deacon White," this time in a little louder voice,
"will you lead?"

Still no response. Evidently the deacon was slumbering.
Parson Jackson made a third appeal and raised
his voice to a high pitch that succeeded in arousing
the drowsy man.

"Deacon White, will you lead?"

The Deacon, in bewilderment, rubbed his heavy
eyes and blurted: "Lead yourself—I just dealt!"

SCIENTIFICALLY SPEAKING

O chemist of skill, investigate!

Answer this quiz of mine:

I think I know what Carbonate,

But where did Iodine?

—Lehigh Burr.

Society Proceedings

ADAMS COUNTY

December 14, 1925. This was the regular meeting of the Society held at the Elks' Club with Dr. C. D. Center, President, in the Chair. Thirty-five members were present.

The Secretary made a motion that the minutes of the November meeting be approved as published in the *Bulletin*. They were approved with the exception of a slight correction concerning that which Dr. Koch had said concerning the opening of the Venereal Clinics by the Quincy Public Health District. Dr. E. B. Montgomery reported for the Library Committee, stating that the books of the Medical Library had been moved to the basement of his office and had been placed in good order, Dr. R. A. Harris having devoted considerable time to this work, and that the books could be consulted by any of our members.

The annual election of officers resulted as follows: President, Dr. C. A. Wells; first vice-president, Dr. Pollock; second vice-president, Dr. J. H. Bloomer, treasurer, Dr. J. A. Koch; secretary, Dr. Harold Swanberg; medico-legal member, Dr. Ralph McReynolds; board of censors, Dr. W. E. Davidson; library committee, Dr. R. A. Harris; assistant secretary, Dr. Harris.

At this time the President asked Drs. Ericson and Bitter to escort the newly elected President to the Chair and Dr. Wells took the Chair. Dr. Wells, after thanking the society for the confidence they had placed in him by electing him to the office of President, proceeded to take up the new business for the coming year. The Secretary asked what the members wished to do about the *Bulletin* for the coming year and stated that the society for the last two years had given \$100 for the publishing of same. Dr. Bitter made a motion that the society contribute \$100 for publishing the *Bulletin* for the coming year. Seconded and carried. Dr. Ericson made a motion that the Secretary be given an Honorarium of \$50.00 for his services during the past year. Seconded and carried. The Secretary called the attention of the membership to the fact that the State Capital Tax for the coming year would be raised to \$8.00, and, in view of that, what were the wishes of the members in regard to the dues for the coming year? Dr. Ericson made a motion that the dues for 1926 be placed at \$12.00 per member. Seconded by Dr. A. H. Bitter, and carried without a dissenting vote. The Secretary then asked whether or not the members wished to hold a social meeting in January, as they had done heretofore. Dr. Knox made a motion that the January meeting be a social meeting and that same be in charge of the 1925 Entertainment Committee. Seconded and carried. Dr. Wells requested that the case report of Dr.

Aldo Germann be read at the next regular meeting.

The meeting adjourned about 10:40 p. m.

HAROLD SWANBERG, M.D., Secretary.

January 11, 1926. This was the annual social meeting of the society held at the Elks' Club, the meeting being called to order at 8:15 p. m. with the President in the Chair. Thirty-three members and three guests were present.

Mr. George Govert, L.L.B., of Quincy, gave an interesting talk on Medico-Legal matters. It was discussed very freely by the membership. Many questions were asked Mr. Govert on many phases of the relation of law to medicine. Dr. Homer Mead of Augusta, Ill., was introduced and gave a short address on matters of medical interest. Dr. Mead has the distinction of having graduated in medicine at the University of Iowa in 1867 and is said to have been graduated from a medical college longer than any other physician in the state of Illinois. Dr. Center made a motion that we extend Mr. Govert a rising vote of thanks for addressing the Society. Following the above, the meeting was turned over to the Chairman of the Social Committee, Dr. A. H. Bitter, who stated that a buffet luncheon had been prepared for those present and everyone proceeded to enjoy a general social gathering.

HAROLD SWANBERG, M.D., Secretary.

ALEXANDER COUNTY

The society met in regular monthly meeting at the Halliday Hotel, Cairo, Ill., Dec. 22, 1925; seventeen of the twenty-one members present. President Dr. B. S. Hutcheson called the meeting to order. After roll call and reading of the minutes of the last meeting, the following officers were elected for 1926: President, J. E. Woelfle; vice-president, F. K. Rossen; secretary and treasurer, B. S. Hutcheson; censor, Chas. L. Weber; delegate, W. F. Grinstead; alternate, Jas. S. Johnson.

It was voted to make the dues for the year \$10.00 in view of the fact that the State Society dues had been increased to \$8.00 per year.

After the business the society adjourned to the Blue Room of the Halliday Hotel where a splendid banquet had been prepared. Dr. S. B. Carey acted as toastmaster and presided with his usual eloquence and wit. Dr. G. H. McNemer gave a unique address entitled "Words."

After short talks by both the retiring president and the president-elect several of the members responded to toasts, some with splendid yarns and others with more serious thoughts referred to the good that is accomplished through organizations and fellowship derived from medical societies.

It was agreed by all present that it was one of the most enjoyable of our annual meetings.

JAS. S. JOHNSON, Secretary.

COOK COUNTY CHICAGO MEDICAL SOCIETY

Regular Meeting, January 6, 1926

1. Thirty-five Years' Experience with Pneumococcus Pneumonia—Robert B. Preble. Discussion—Theodore Ticken, James B. Herrick.

2. The Management of the Simple Anemias in General Practice—Charles Spencer Williamson. Discussion—Prof. Hugh A. McGuigan, Dept. of Pharmacology; Robert W. Keeton, University of Illinois.

Joint Meeting Chicago Medical Society and Irving Park Branch, Jan. 13, 1926

1. The Diagnosis of Vertebral Lesions—E. J. Berkheiser. Discussion by C. A. Parker and A. H. Montgomery.

2. Artificial Pneumothorax in Pulmonary Tuberculosis—P. S. Winner. Lantern slides. Discussion by Robert H. Hayes and Ethan A. Gray.

3. Insulin in General Practice—A. C. Hammett. General Discussion.

Regular Meeting, January 20, 1926

1. The Technique and Interpretation in Cholecystography by the Oral Method—Wm. H. Stewart, New York, N. Y. Discussion—Ed. S. Blaine, Robert Arens.

2. Surgery of Gall Bladder Disease—W. J. Mayo, Rochester, Minn. Discussion—Allen B. Kanavel, A. E. Halstead.

3. Medical Aspects of Gall Bladder Disease—Joseph L. Miller. Discussion—Chas. L. Mix.

Joint Meeting Chicago Medical Society and Chicago Dental Society, January 27, 1926

1. "Teamwork for the Health of the People"—William D. Haggard, President American Medical Association.

2. "A Dental Educational Program"—Sheppard W. Foster, President American Dental Association.

KANKAKEE COUNTY

The regular January meeting of the Kankakee County Medical Society was held Jan. 14, Dr. N. T. Stevens, Clifton, Ill., presiding, with twenty-three members present.

Following the regular routine of business Dr. Carl D. Davis, Chicago, Ill., addressed the meeting on the subject of "Surgery of the Large Bowels." Followed by free discussion. After which the doctors and their wives participated in an oyster supper, followed by cards.

SANGAMON COUNTY

The regular meeting of the Sangamon County Medical Society was held January 7, 1926, in the new Abraham Lincoln Hotel. At this time the fol-

lowing officers were elected for the ensuing year: President, Herbert B. Henkle; vice-president, George J. Mautz; secretary-treasurer, Robert H. Woodruff; Board of Censors, C. V. McMeen, Homer P. McNamara and James A. Day; delegate to state meeting, John J. McShane and A. C. Baxter; alternate delegates, C. P. Colby and Henry Aschauer; Legislative Committee, M. G. Owen, Percy L. Taylor and Don Deal; Medico-legal Committee, Harry C. Blankmeyer.

The society closed the year with 116 members.

We had the pleasure of hearing a very interesting and instructive talk by Miss Keller of the Lay Educational Committee. Suitable resolutions covering the death of Dr. Lewis Cass Taylor were read and spread upon the minutes.

R. H. WOODRUFF, Secretary.

Marriages

HERMAN L. HORWITZ, Chicago, to Miss Rose Suzanne Mishlove of Ripon, Wis., Nov. 12, 1925.

JOHN OTIS CLETCHER, Tuscola, Ill., to Miss Jessie Irene Wilson of Flushing, Ohio, January 26, 1926.

Personals

Miss Maud Slye addressed the Chicago Council of Medical Women, January 26, on "The Inheritability of Cancer."

Dr. Elven J. Berkheiser has been appointed attending orthopedic surgeon to the Children's Memorial Hospital.

Dr. Harry C. Moss, Carbondale, has been appointed acting division surgeon of the St. Louis Division of the Illinois Central Railroad.

Dr. Charles W. Pfeiffer, Quincy, was elected president of the staff of St. Mary's Hospital at the annual election, Dec. 30, 1925.

Drs. Peter Bassoe and George B. Hassin addressed the Chicago Neurological Society at the Palmer House, January 21, on "Brain Changes in General Paresis Treated with Tryparsamide."

Dr. Roy Grinker addressed the Chicago Society of Internal Medicine, January 25, on "Per- nicious Anemia, Achylia Gastrica and Combined Cord Degeneration."

Edwin O. Jordan, Sc.D., professor of bacteriology, University of Chicago, gave a lecture

in Orchestra Hall, January 11, under the auspices of the president and trustees of the university, on "The Conquest of Disease."

Dr. Irving F. Stein of Chicago addressed the January meeting of the Vermilion County Medical society on "The Use of Radiography in Gynecology."

Dr. Malcolm T. MacEachern is in New Zealand studying in hospitals of that country and Australia; he will attend the International Hospital Conference and the annual meeting of the New Zealand Branch of the British Medical Association in February, and return to the United States in April.

Dr. Esther Loring Richards, associate professor of psychiatry, Johns Hopkins University Medical School, Baltimore, addressed the fifteenth annual meeting of the Infant Welfare Society of Chicago, January 27, at the Palmer House, on "Child Behavior."

Professors Anton J. Carlson and Arno B. Luckhardt of the physiology department, University of Chicago, have been elected foreign members of the Deutsche Akademie der Naturforscher, Halle, Germany; founded in 1652. This society has had among its foreign members Charles Darwin, Thomas Huxley, Louis Agassiz and S. J. Meltzer.

About \$6,000,000 will ultimately be given to charitable and educational institutions under the will of the late Dr. Norman Bridge, an inventory of which was filed in probate court, January 4. The estate, on the death of the widow, is to be divided equally between the University of Chicago for medical education, the University of Southern California Medical Department, the Barlow Sanatorium Association of Los Angeles, the Southwest Museum Incorporated, Los Angeles, and La Vina, a sanatorium in Pasadena; each of the five institutions, it is reported, will receive about \$1,200,000. There were ten \$10,000 bequests also, among others to Northwestern University, University of California and the Chicago Home for Incurables.

On the evening of January 26, Dr. Wm. O. Krohn addressed the Fort Wayne Medical Society and members of the bar on "The Criminal Mind." On December 10, he gave an address in New York City before the Circumnavigators, of which Chief Justice Taft is president, on "The

Wild Man of Borneo." Recently Dr. Krohn spoke before the Milwaukee Neurological Society and the Milwaukee Academy of Medicine in joint session on "The Psycho-Neuroses in Their Medico-Legal Significance"; also to the staff of the Great Lakes Hospital on "Differentiation of the Psycho-Neuroses from Paresis in Its Early Stages"; and to the staff of The American Hospital on "The Physician in Court."

News Notes

—The Illinois Masonic Hospital, Chicago, has let contracts for a seven-story addition to cost \$200,000.

—Ground has been broken for the erection of a four-story addition to the American Hospital, Irving Park Boulevard and Broadway.

—State inspectors visited Sterling, January 5, to inform the chiropractors that unless they secured a license, court action would be started against them, the result was that chiropractors E. O. Oltmans, C. A. Stout, and Williams and Williams have closed their offices in Sterling.

—The regulations for the control and prevention of pneumonia in Illinois have been completely revised by the state department of health; copies of the new rules have been placed in the hands of local health officers. The new regulations can be obtained on request to the board at Springfield.

—Dr. Don V. Poindexter, Greenville, was sentenced, January 4, it is reported, to serve one year and a day in the federal penitentiary at Fort Leavenworth, Kan., after having pleaded guilty to a charge of violating the Harrison Narcotic Law.

—The Chicago Tuberculosis Society met, January 14, at the Edward Hines, Jr., Hospital (Speedway), Roosevelt Road near Maywood. There was an inspection of the hospital beginning at 4:30; roentgen-ray demonstrations at 5:30, dinner at 6:15, and a symposium by the staff of the hospital at 7:30.

—Passavant Hospital will build a new home, costing one and a half million dollars, on the McKinlock campus of Northwestern University on the lake front near Chicago Avenue; the site has been given to the hospital by the university

for ninety-nine years; one-third of the beds of the new institution will be set aside for Northwestern University Medical School for clinical instruction.

—Dr. Ray Lyman Wilbur, president of Stanford University and formerly President of the American Medical Association, will address the Chicago Association of Commerce at a luncheon, February 17, at the Hotel La Salle on "Health, a Business Asset." Reservations for physicians should be made with the Chicago Medical Society, 25 East Washington Street. Tickets, \$1 per person.

—Dr. John J. Abel, Johns Hopkins University Medical School, Baltimore, gave the sixth Pasteur lecture before the Institute of Medicine of Chicago, January 22, at the City Club, on "Some Thoughts and Experiments in Relation to the Hormones." There was an informal dinner preceding the meeting. The previous Pasteur lectures were delivered by Graham Lusk, D.Sc., Dr. Theobald Smith, Dr. Jacques Loeb, Dr. Otto Folin, and Dr. William H. Howell. The next meeting of the institute will be February 26.

—Provisional figures issued by the state health director indicate that the death rate of tuberculosis in 1925 in Illinois was 79 per hundred thousand population, a decline of two points from the previous year, and the seventh successive annual decline in the death rate in this state. Dr. Rawlings said that this drop began almost simultaneously with the "stupendous" eradication campaign that is going on, at a cost of more than \$15,000 a day. Most of that sum goes to the thirty-one sanatoriums, which operate at an annual outlay of about \$3,500,000; another million goes for testing cattle for tuberculosis. The death rate from tuberculosis in 1918 was 134, in which year 8,402 persons died; last year 5,508 deaths were attributed to tuberculosis. The decline in the tuberculosis death rate is regarded as justifying a campaign of eradication that is said to have no parallel in the history of the state.

—Following the passage of an ordinance creating a board of health for Chicago, January 13, the mayor submitted the names of Mr. A. A. Sprague, commissioner of public works, Mr. Francis X. Bush, corporation counsel, Mr. Mor-

gan A. Collins, chief of police, Mr. Frank Doherty, building commissioner, and Mr. Joseph F. Connery, fire commissioner, and the council confirmed the appointments. The board will act, the mayor said, in a judicial and advisory capacity to the commissioner of health, whose authority is not to be abridged by the ordinance. The action taken is said to have resulted from the health commisisoner's campaign to provide the city with milk from non-tuberculous cows by April 1; it is to prevent the state from defeating the commissioner's plan. Representatives of the state on the recently appointed milk commission are said to insist that there should be a delay with regard to the requirement that no milk shall enter the city from tuberculous cows.

—An examination will be held by the American Board of Otolaryngology in Dallas, Texas on Monday, April 19, 1926, and in San Francisco, California on Tuesday, April 27, 1926. Application should be made to the Secretary, Dr. H. W. Loeb, 1402 South Grand Boulevard, St. Louis, Missouri.

—The Annual Meeting of the stockholders of the Chicago Eye, Ear, Nose and Throat College was held in the College Building Friday, January 8, and the following officers for the ensuing year were elected: Dr. W. A. Fisher, president; Dr. H. B. Woodruff, vice-president, Dr. O. B. Nugent, secretary.

—At a recent meeting of the Michael Reese Ex-Interne Alumni Association, the following officers were elected for 1926: president, Dr. Irving F. Stein; vice-president, Dr. Edwin Hirsch; treasurer, Dr. Jerome F. Strauss, and secretary, Dr. Ralph Reis.

—The Vermilion County Medical society is operating its own credit rating and collection bureau. Three employees give full time to this work. The first two years work will show collections of over \$25,000 of old accounts turned in by the members. A rating list is furnished to the members which contained over 2,500 names of poor credit risks in the county. The work of the bureau has made a definite increase in all medical incomes by the elimination of loss on bad accounts. A 24-hour rating service is maintained.

—The eighth annual meeting of The Western Physiotherapy Association will be held in Kan-

sas City, April 15 and 16, under the presidency of Dr. A. David Willmoth of Louisville, Ky. The sessions will be held in the beautiful Hotel President, Fourteenth and Baltimore Avenue, Kansas City's newest hostelry. Members of the association attending this meeting will find it convenient to reserve their rooms in the President Hotel, and all be quartered under the same roof. Reservations should be made early. Eastern members will find it convenient to stop over in Kansas City en route to the A. M. A. at Dallas, which meets the following week. The Western School of Physiotherapy will hold its sessions in the same hotel, beginning April 8 and continuing until April 14. Full information and prospectus may be obtained from the Secretary, Dr. Chas. Wood Fassett, 115 East 31st Street, Kansas City, Mo.

—The Chicago Orthopedic club elected the following officers at its annual meeting in January: Henry B. Thomas, president; H. B. Moore, vice-president; Philip Lewin, secretary-treasurer.

Deaths

PHILIP WILLIAM OTTERBEIN BAER, Bardolph, Ill.; Jefferson Medical College of Philadelphia, 1885; member of the Illinois State Medical Society; aged 67; died, Dec. 31, 1925.

WILLIAM GEORGE BECHTOLD, Breese, Ill.; Missouri Medical College, St. Louis, 1884; died, January 6, at St. Elizabeth's Hospital, Belleville, of cerebral hemorrhage.

PASCHAL G. CASPIAN, Chicago; Harvey Medical College, Chicago, 1904; a Fellow, A. M. A.; aged 70; died, January 8, of injuries received when struck by an automobile.

THOMAS FRANCIS DALY, Chicago; Barnes Medical College, St. Louis, 1899; a Fellow, A. M. A.; aged 51; died, January 8, of pulmonary tuberculosis and bronchopneumonia.

A. W. FOREMAN, White Hall, Ill. (licensed, Illinois, 1888); Civil War veteran; aged 85; died, Dec. 31, 1925.

CHARLES GORDON FULLER, Chicago; Chicago Homeopathic Medical College, 1881; a Fellow, A. M. A.; formerly on the staff of the Evanston (Ill.) Hospital; aged 69; died, January 17, at Pass Christian, Miss., of heart disease.

LEONARD LEE GILL, Caseyville, Ill.; Bellevue Hospital Medical College, New York, 1886; member of the Illinois State Medical Society; formerly on the

staff of the Blessing Hospital, Quincy; aged 63; died, Dec. 28, 1925.

HERMAN ARMIN KLEIN, Chicago; Jenner Medical College, Chicago, 1899; College of Physicians and Surgeons, Chicago, 1907; on the staff of the Alexian Brothers Hospital, where he died, January 11, of gangrene of the gallbladder, aged 59.

THOMAS HENRY LEWIS, Chicago; Chicago Medical College, 1896; a Fellow, A. M. A.; on the staff of St. Luke's Hospital, where he died, January 16, of bronchitis, aged 53.

LEMUEL L. LONG, Toulon, Ill.; Jefferson Medical College of Philadelphia, 1883; aged 73; died, January 14, of heart disease.

LOUIS JOACHIM MARNITZ, Chicago; Bennett Medical College, Chicago, 1912; member of the Illinois State Medical Society; aged 58; died, Oct. 14, 1925, of cerebral hemorrhage and arteriosclerosis.

EVERETT S. MATTHEW, Divernon, Ill.; St. Louis College of Physicians and Surgeons, 1885; member of the Illinois State Medical Society; aged 63; died, January 4, of cerebral hemorrhage.

FRANCIS EDWIN MELUGIN, Thomson, Ill.; Long Island College Hospital, Brooklyn, 1879; a Fellow, A. M. A.; Civil War veteran; aged 79; died, Dec. 23, 1925.

GEORGE PHILIP MILLER, Oak Park, Ill.; Rush Medical College, Chicago, 1903; a Fellow, A. M. A.; formerly on the staff of the Robert Burns Hospital; aged 46; died, Dec. 28, 1925, of chronic myocarditis, chronic nephritis and hypertension.

ARNOLD FREDERICK MUELLER, McHenry, Ill.; Milwaukee (Wis.) Medical College, 1908; member of the Illinois State Medical Society; served in the M. C., U. S. Army, during the World War; aged 39; died, Dec. 31, 1925, at Sheboygan, Wis., of pneumonia.

CHARLES W. PRETTYMAN, Chicago; Medical Department of Columbia College, New York, 1888; aged 72; died, Dec. 16, 1925, of carcinoma.

JESSIE E. ROBERTSON, Chicago; Hahnemann Medical College and Hospital, Chicago, 1886; aged 63; was found dead in bed, January 10, of heart disease.

THOMAS WESTON THOMSON, Knoxville, Ill.; Rush Medical College, Chicago, 1903; aged 52; died, Oct. 5, 1925, at Los Angeles, of endocarditis.

ULYSSES N. THORNTON, Leland, Ill.; Trinity Medical College, Toronto, Ont., Canada, 1887; aged 60; died, Dec. 13, 1925, of cerebral hemorrhage.

REUBEN WOODS, Quincy, Ill.; Bellevue Hospital Medical College, New York, 1866; Civil War veteran; aged 89; died, Dec. 9, 1925.

FLORA MATINA TANQUARRY BRIAN, Bellmont, Ill.; College of Physicians and Surgeons, Chicago, 1904; aged 40; died, in St. Mary's Hospital, Evansville, Ind., December 9, 1925, from injuries received in an automobile accident.

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He gathered up the gossip and he'd give it all to us.
His language wasn't polished, and some epithets he'd
use

To strengthen his opinions or to decorate the news.
He'd snip and talk, and talk and snip, and now and
then he'd let

Us see the ladies' pictures in the old *Police Gazette*.

The old-time barber didn't need an education vast,
'Twas enough to know the fighters of the present and
the past;

And in the baseball season he could get along right
well

With the home team's printed schedule and a yarn or
two to tell.

Then, as we waited for our turn, we never had to fret,
We could look at all the ladies in the old *Police
Gazette*.

But now the old-time barber and his shop have passed
away!

Men no longer talk with freedom when they visit
him today.

For the women folks are sitting round the room in
every chair

And the modern barber's busy bobbing many patrons'
hair.

Now its *Vogue* and the *Pictorial* his waiting patrons
get,

Instead of that old favorite, the pink *Police Gazette*.

The modern barber's had to learn a line of talk that's
new;

The language of the prize ring and the diamond will
not do.

Now he snips and chats of fashions, weddings, dinner
parties, teas;

And tells 'em who's been in to get their tresses bobbed
for these.

There is never talk of prize fights or a horse race
or a bet,

For his shop is now a parlor where there's no *Police
Gazette*.

—Edgar Guest.

KEPT OPEN HOUSE

The minister of a certain parish in Scotland had
called at a farmhouse about tea time and had been
suitably entertained. As he neared the end of a hearty
meal a stray dog wandered in and was given a piece
of meat.

"You seem to keep open house," remarked the min-
ister.

"Ay," replied the farmer's wife, who had been his
hostess on many previous occasions, "I was jist saying
to the gude man the ither day that a' the hungry brutes
in the parish seem to come to me seekin' a meal."

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Illinois Medical Journal

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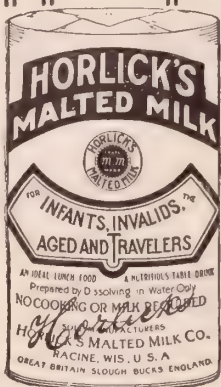
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ILLINOIS MEDICAL JOURNAL

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Send original articles and all communications relating to advertisements to Dr. Charles J. Whalen, Editor, 6221 Kenmore Avenue, Chicago.

Membership correspondence to Dr. Harold M. Camp, Monmouth, Ill.

Society proceedings and news items and changes in the mailing list to Dr. Henry G. Ohla, Managing Editor, 1618 Juneway Terrace, Chicago.

Contributors will submit all copy for publication typewritten on standard size paper and double spaced. Copy not complying with this rule will be returned, if convenient.

Subscription price of this Journal to persons not members of the Illinois State Medical Society is \$3.00 per year, in advance, postage prepaid, for the United States, Cuba, Porto Rico, Philippine Islands, Hawaiian Islands and Mexico. \$3.60 per year for all foreign countries included in the postal union. Canada, \$3.25. Single current copies, 35 cents. Back numbers, after three months from date of publication, 50 cents.

Editorial

ILLINOIS STATE MEDICAL SOCIETY ANNOUNCEMENT

The 76th Annual Meeting of the Illinois State Medical Society will be held in Champaign-Urbana, May 18, 19 and 20, 1926.

In anticipation of one of the largest and best meetings in the history of the Society, the Committees on Arrangements have inaugurated extensive preparations for the meetings and entertainment of the Society.

The Committee on Hotel Accommodations urge that reservations for the meeting be made early, and direct with the management of the hotels. In case further information is found necessary the hotel committee is at the service of the membership. This committee, whose chairman is Dr. James S. Mason, 129 W. Elm St., Urbana, Ill., is in touch with a system that has control of a large number of desirable rooms that can be drawn upon in case the capacity of the hotels in the community is exhausted.

Below will be found a list of the principal hotels of the twin community of Champaign-Urbana:

HOTELS

Inman Hotel, Champaign, 150 Rooms (Headquarters for the Society).

Single without bath, \$1.75 and \$2.00; double, \$3.50.

Single with bath, \$2.50, \$3.00 and \$3.25; double, \$4.50, \$5.50 and \$6.00.

Urbana-Lincoln Hotel, Urbana, Ill., 100 Rooms.

Single without bath, \$1.75 and \$2.00; double, \$3.00 to \$3.50.

Single with bath, \$2.50 to \$3.50; double, \$4.00 to \$6.00.

Beardsley Hotel, Champaign, Ill., 100 Rooms.

Single without bath, \$1.50; double, \$2.50.

Single with bath, \$2.50; double, \$4.50.

Cots without bath, \$1.00.

Cots with bath, \$1.50.

Hamilton Hotel, Champaign, Ill., 65 Beds.

Single without bath, \$1.50; double, \$3.00.

Single with bath, \$2.50; double, \$4.00.

Cots without bath, \$1.00.

Cots with bath, \$1.50.

McClurg Hotel, Urbana, Ill., 25 Beds.

Single without bath, \$1.50; double, \$2.50.

Single with bath, \$2.50; double, \$3.50 and \$4.00.

(Signed) Chairman Hotel Committee.

SEND ON PAPERS FOR THE SURGICAL SECTION AT THE STATE MEETING

Surgeons wishing to read papers at the forthcoming meeting of the Illinois State Medical Society at Champaign May 18, 19 and 20th, 1926, kindly communicate with the secretary of the section on surgery, Everett P. Coleman, Canton, Illinois.

PHILIP H. KREUSCHER, Chairman,
30 N. Michigan Ave., Chicago.

SEND ON PAPERS FOR THE MEDICAL SECTION AT THE STATE MEETING

Doctors wishing to read papers in the section on Medicine at the forthcoming meeting of the Illinois State Medical Society at Champaign, May 18, 19, 20th, 1926, kindly communicate with the secretary, LeRoy H. Sloan, 1180 E. 63d St., Chicago.

B. U. McCLANAHAN, Chairman,
Galesburg, Ill.

RESOLUTIONS ON THE DEATH OF DR. L. C. TAYLOR

Dr. Lewis Cass Taylor died at the Springfield Hospital on December 14, 1925, following an illness of several months' duration. He was born at Williamsville, Ill., April 9, 1854. He completed his early education in the schools of Sangamon County, and graduated from Rush Medical College in 1874, at the early age of twenty years, and from Bellevue Hospital Medical school the following year.

After a short period of practice in Springfield, he located at Auburn, Ill., where he remained for about sixteen years. After selling his practice in Auburn, he went abroad for a period of two years for post-graduate medical study, spending most of this time in Vienna.

Upon his return he was located for a short

time in Cleveland and then came to Springfield for the second time, making this his home and his field of work for more than thirty years. In a busy practice of general medicine, he was widely known for his diagnostic ability, and with his bedside training and keen knowledge of clinical medicine and pathology, he was well equipped as a consultant.

Among the many honors that came to him with his numerous activities, were: President of Springfield Tuberculosis and Visiting Nurses Association, President of Sangamon County Sanitarium Board, President of Sangamon County Medical Society, Chairman of the Legislative Committee of the Illinois State Medical Society, and President of the Illinois State Medical Society during the year of 1925.

Not only as a physician, but as a man personally, Dr. Taylor had many outstanding attributes. These were noticeable because attained by an unusual adherence to responsibility and duty. He probably more than any other one man in recent years was responsible for the present laws on the statute books of Illinois, governing the practice of medicine.

Dr. Taylor was not a dreamer, but was diligent and studious, one who reasoned and carefully weighed matters to a rational conclusion. These qualities no doubt actuated him, when, after several years of practice, he went abroad for two years' study.

Truthfully it can be said of him that he loved the scientific practice of medicine. He was always ready to see any interesting case and spent valuable time in the study and diagnosis of charity cases. His knowledge of disease had been learned at the bedside and in the postmortem room. In his presidential address to the Illinois State Medical Society, at Quincy, he spoke of the disappearance of the family physician, and quoted Dr. Osler's trite admonition, "Back to the Bedside."

Dr. Taylor, we shall miss you; a true disciple and follower of Aesculapius; one who proudly bore the torch of scientific medicine high above the cavil of falsehood and the misrepresentation of politicians and cults.

Be it therefore resolved, that we deeply feel the loss of Dr. Taylor to the Illinois State Medical Society, and as an honored member of our profession.

Resolved, that a copy of these resolutions be spread upon the records of this Society, and a

copy be given to the ILLINOIS MEDICAL JOURNAL for publication.

SAMUEL E. MUNSON, M. D.

HAROLD M. CAMP, M. D.

ADVANTAGES OF MEMBERSHIP IN THE ILLINOIS STATE MEDICAL SOCIETY

During the past few months we have received a number of letters both from individual members of the Illinois State Medical Society, and from County Society Secretaries asking for an outline of the activities of our Society, and the advantages of membership. Some have questioned the advisability of retaining their membership. All of these communications have been answered, but we have been requested to write this brief synopsis for the benefit of those members who are not fully aware of the activities of the Society, and the privileges of the members. It might be well to consider these activities individually, and comment on each, some require more elaboration than others.

1. The fellowship developed through meeting other members of the profession at the meetings, and the advantages that naturally come through a mutual interchange of ideas.

2. The privilege of attending the meetings, hearing the talks or see the conducting of clinics, many times given by recognized leaders in the profession, the value of which is unquestioned.

3. Receiving the ILLINOIS MEDICAL JOURNAL, which we believe is the best Journal published by a State Medical Society. On account of the extreme modesty of our editor, we will mention the fact that we have hundreds of subscribers outside of our own State and Society, who are willing to pay the subscription price of three dollars a year, to get the Journal. We receive many letters commending the Journal, its editorials and papers, as well as the other information it contains.

4. The Medico-legal protection given by the Society to the members. Our legal force is recognized as being highly efficient in the performance of its duties, and the results obtained show this without a doubt. Our members are defended against mal-practice suits brought against them.

5. Legislative Service. Through a very efficient legislative committee, the interests of the medical profession are well cared for. There

has been no occasion for any "lobbying" during the past few years on account of the work the committee has done. Friendly to the legislator at all times, and no antagonism. The results speak for themselves. There have been no measures at all offensive to the medical profession passed at the last sessions of the legislature. In 1923, there was passed an excellent Medical Practice Act, which has been declared constitutional by our Supreme Court, and which we have reason to be proud of. The medical profession of Illinois should be proud of the work done by the legislative committee.

6. Lay Education Work. It has now been two years since this work was started. Much has been done in this time, and the activities and services will be briefly outlined.

a. Speakers Bureau.

Hundreds of talks on medical subjects, and matters pertaining to health have been given before lay audiences. These have all been given through a request from the organization before which the talks were given. To show the increasing popularity of this work, it might be well to state that between June 1st, 1925 and June 1st, 1926, 1,096 talks have been scheduled, and this number will be increased before the period expires.

b. Newspapers.

Hundreds of newspapers throughout the state have received news articles on health subjects from our office in Chicago, and these articles have been carefully edited and censored, so that no personal attacks have been made, nor any prejudices shown.

c. Radio.

Three or four of the largest radio stations have cooperated with us in the broadcasting of "health talks." These have proved to be very successful, and the use of the radio will be increased during the present year.

d. Periodic Health Examinations.

This has been mentioned in most of the talks made before lay audiences, showing the necessity for regular "physical inventories" and contrasting their value with the financial inventories, the value of which, no one contradicts. In addition to these talks, physical examinations have been given in connection with Health Pageants, which have been conducted in several localities, and

which have been of great value in showing the necessity of the physical inventory.

e. Coordination with lay-organizations.

Throughout the state, arrangements have been made whereby all organizations undertaking any phase of health work, or activity, shall do it under the supervision of local Medical Societies. Through such an arrangement, there is no overlapping of service, and the supervision of all health work is where it should be, under the direction of the Medical men.

f. Co-ordination with other health agencies.

An unusual degree of cooperation has been arranged between the Illinois State Medical Society, and such organizations as the Illinois Tuberculosis Association, The State Health Department, and other organizations.

g. Post Graduate Service.

This is a more recent activity and it has been successfully inaugurated in several Counties. Within a short time, we hope to give more information on this service, which we believe will be one of the best features yet presented to Medical Societies.

7. Our members are eligible to fellowship in the American Medical Association. It is our firm belief that every physician in the State of Illinois should be a member of this great organization. Our Society is a component society, just as the County Medical Societies are component Societies of the State Medical Society. The many activities of this Association have been repeatedly outlined, and it is not necessary to elaborate further in this short article.

8. The Annual Meeting. The members of the Illinois State Medical Society are all eligible to register at the annual meeting each year. These meetings, as most members know, are of great value to the members, and well worth attending. Our plans this year are somewhat different from those of former years. We will have some of the leaders of the profession, in each Section, both residents of Illinois, and outside the State. We will have two or three very pleasant surprises in store for those attending the 76th annual meeting to be held at Champaign, Illinois, May 18th, 19th, and 20th, 1926.

During the past few years, the Illinois State Medical Society has been given credit for having the largest membership in proportion to the number of practicing physicians in the state, of

all the larger State Medical Societies. We should be proud of this showing, and attempt year by year to increase it.

HAROLD M. CAMP, M. D.

Secretary Illinois State Medical Society.

REQUIRED TAKING A MEDICAL EXAMINATION BEFORE A NON-MEDICAL BOARD

Justification of Basic Science Act

The Basic Science Act, passed by the recent session of the Washington legislature, vetoed by the Governor, passed by the Senate over his veto, and failing by three votes to pass the House, was a public health measure. Its opponents charge that it represented a conspiracy on the part of the "medical trust" to suppress their competitors, such as chiropractors and sanipractors. In reality its purpose was to require, through an examination before a nonmedical board, a demonstration on the part of those seeking license to heal the sick that they possess reasonable knowledge in the fundamental principles regulating health and disease of the human body.

A CONGRESSMAN WITH NERVE ENOUGH TO ADMIT IT

This growing menace to national stability has been a personal cognizance for many years. Repeatedly during the last decade we have called attention to this situation. It would seem that Congressman Davey is one of the few public officials with sufficient nerve to denounce publicly the menace set forth below.

A bill has been introduced in Congress by Martin L. Davey, Congressman from Ohio, which will give the President blanket power for two years to reorganize the business structure of the government. In a circular letter to the press Congressman Davey says:

"For seven years, I have observed the Departments and Bureaus of the Government at Washington at close range, having had official business with nearly all of them. I am simply appalled at the loafing, indifference and inefficiency. There are thousands upon thousands of unnecessary employees and endless duplication of alleged effort. There is an inexcusable waste of much more than a half billion dollars a year."

AMERICA IS BECOMING THE MEDICAL CENTER OF THE WORLD

A distinct surprise to American physicians is the exclusion of American doctors from clinics at the University of Berlin, Germany.

If this action is in the nature of reprisals by which the German University hopes to raise the boycott against German representatives at international scientific associations, then the German mind has gone wrong again. Berlin never did attract any great number of American doctors of medicine to its clinics. Vienna was always the clinical magnet, and still is as is also Prague. And Vienna has done all she could to maintain pre-war relations. The same may be said of Switzerland, another great center of medical science. These ideas are held by other nations than America.

While the subject is up for discussion let it be remembered that America is becoming the medical center of the world and is contributing as much to science as any other nation and far more than Germany. Medical hardship will obtain when the United States, forgetting the tenets of humanity under the dictates of prejudice closes the doors of her great medical clinics to earnest students from any country.

CHIROPRACTORS PAY ONE HUNDRED AND TWENTY (\$120.00) YEAR ANNUAL DUES

The fact that a few physicians throughout the state have protested against the payment of approximately ten dollars per year in the shape of dues in order to carry on the activities of the State Medical Society prompts us to mention the fact that a band of chiropractors in the state pay as dues the sum of One Hundred and Twenty Dollars (\$120.00) per year or ten times the amount paid by members of the regular medical profession. By comparison this makes the doctors belonging to the regular school look like pikers.

At the close of the last session of the legislature we are reliably informed that some of the leaders of the chiropractor legislative committee openly boasted that the chiropractors had in their treasury upwards of \$150,000.00 that they intended to use in putting over a chiropractic bill at the forthcoming session of the legislature; that Illinois is a pivotal state from the chiropractic standpoint, that it is just across the river from

the great chiropractic school at Davenport, Iowa, and that they must have the chiropractic law in Illinois. We accept all these statements as gospel truth as viewed from a chiropractic standpoint and repeat that when it comes to raising money to carry on activities a state medical organization the medical profession are only pikers.

PHYSICIANS SHOULD BE ACTIVE AT THE FORTHCOMING PRIMARIES APRIL 13TH

Right now physicians of Illinois should be devising plans for an active legislative propaganda campaign. The time and place to make your influence felt for good is before the primary and election, that is before the candidates are chosen, when friendship or antagonism for measures of proposed legislation will influence choice. If a doctor wants to make his influence felt he must become a participating citizen, that is if he wants his ideas enacted into laws, he must bear his part as a citizen in the simplest and most fundamental process that contributes to making laws. He should vote at election, he should religiously attend the primaries, and when he neglects or feels that he is too busy to do so he ought not to complain when the right officers are not nominated or elected.

Instead of depending upon laymen to look after his welfare, physicians should in greater numbers become members of our legislative bodies.

The *Lancet-Clinic* says we should have at least as many physicians as lawyers in our legislatures. Certain it is that medicine should be better represented numerically in our legislative halls.

Next month (April 13) the prospective members of the house and senate of the respective political parties will go before the primaries for a process of making a choice of the candidates of the respective political parties, and it is the duty of the profession of each senatorial district to see that high class men are nominated for both house and senate. Then, regardless of politics, the profession of the district should guarantee their election. This can easily be done if every individual will put his shoulder to the wheel. It is the duty of the profession in each senatorial district to see that one physician is nominated for both house and senate. Surely in every senatorial district some representative physician

can be induced to make the race for member of the legislature.

The profession and the people alike would profit if the able physicians of Illinois would emulate the brilliant physicians of foreign lands, of whom the great Dirchow of Germany, Clemenceau, Combes and Augagneur, professor of the Faculty de Medicine, de Lyon in France are illustrious examples of medical men engaging in affairs of government. Recently there were over thirty physicians in the French legislature.

In the English Parliament at about the same time were Doctors Radcliffe, founder of the Radcliffe library of Oxford; Friend, a censor of the Royal College of Physicians; Wakely, founder of the *Lancet*; M. Foster, the physiologist; Priestly, the Gynecologist; Collins, the Ophthalmologist, and W. Foster, once professor of medicine in Birmingham and a well known medical writer.

In America, as signers of the Declaration of Independence, we delight to honor Doctors Josiah Bartlett, Matthew Thornton, Oliver Walcott, Benjamin Rush and Lyman Hall. Hundreds of other equally illustrious examples might be cited.

Physicians the world over are looking for some sort of a solution for the many evils that are oppressing them. It is time that we get away from little things and combat the big evils that affect all, and that can be corrected through co-operative effort.

DR. P. J. H. FARRELL A CANDIDATE FOR CONGRESS

Your attention is called to the fact that Colonel (Doctor) P. J. H. Farrell is a candidate from the Ninth Congressional district for a seat in the national house of representatives.

The country has had suffering enough from vicious legislation planned by laymen to interfere with and dictate the practice of medicine.

In the name of humanity and progress let a few physicians have something to say about public welfare. Congress is made up to a two-thirds degree of lawyers. There are only six physicians in the national body of lawmakers. Yet the doctor comes closer to the problems of the average citizen than any other professional man.

Dr. Farrell is now a candidate of the Ninth district. He is capable, efficient and experienced. For the good of the country we should

have proper medical representation in Springfield and at Washington. Vote for Colonel Farrell on primary day, April 13th.

No party affiliation exists at the forthcoming primary, therefore every physician and lay person can vote for Col. Farrell April 13th. The County Judge has ruled that no party affiliation applies or are in force at this primary for the reason that over two years time has elapsed since the last registration, for this reason party declaration is not binding at the primary April 13th, therefore go to the polls and vote for Colonel (Doctor) P. J. H. Farrell.

DOCTORS SHOULD TABOO PARTY POLITICS. NOW IS THE TIME TO MAKE YOUR INFLUENCE COUNT

Following previous primaries and elections members of the House and Senate have offered among other excuses that they did not know that the medical profession were on the map. That had they realized that there is such a thing necessary as public health protection that they would not have pledged themselves thus and so and as a result they voted against the best interest of the public and the medical profession.

Since all members of the House and half the members of the Senate must come before the public at the primaries in April 13th, and will ask the support of their constituents, it will be possible for the doctors in each district to throw their influence in favor of certain candidates. This furnishes an opportunity for the physician to exercise his right of selection of candidates, and he should vote only for such men as can be trusted to vote intelligently in the legislature on matters concerning health measures in this state.

Under present conditions doctors should be more patriotic than partisan at elections. Self preservation is one of the first laws of nature. Medical men must stand together. The organized profession must have a clear cut platform on things medical and must not hesitate to back it whether it is unpalatable to either of the old parties and their candidates. In the new order of things there is no longer to be considered the party brand. The slogan for the future should be: "Does the candidate stand for radical medical legislation, which is always un-American,

destructive alike to the interests of the people and the profession."

The welfare of the profession and the masses of our people is knitted and woven into the fabric of the campaign against bolshevism and destructive foreign propaganda financed and fostered by agents of destruction. The ideals for which we strive are always in the interests of the public and are not impossible of accomplishment, if we will wage a constructive fight against the election of any candidate for the legislature or for other office who are in sympathy with un-American propaganda.

Whether one is a democrat or a republican makes no difference in local government. He can join in the saving of the government without abandoning his political party. What we need now is political leaders who will not show cowardice in evading issues involving the safety of our government because they antagonize aggressive minority organizations. Loyalty to the best interests of all the people must be above and beyond that of any civil or industrial organization working for the interests of special groups or classes.

PROCURE BLANKS FOR PERIODIC HEALTH EXAMINATION OF THE SECRETARY

From time to time requests for blanks for periodic health examinations have been sent to officers of the Illinois State Medical Society. Physicians throughout the state desiring periodic health examination blanks can receive a sufficient supply by writing to Harold M. Camp, M. D., Monmouth, Illinois, Secretary of the Illinois State Medical Society.

ALL HEALTH OFFICERS SHOULD FIRST BE PHYSICIANS—A RESOLUTION PASSED BY ILLINOIS STATE MEDICAL SOCIETY

At the January meeting of the Council of the Illinois State Medical Society the following resolution was passed which should interest every member of the Illinois State Medical Society:

WHEREAS, The American Public Health Association at its annual meeting in St. Louis in October, 1925, listened to an address by one of its members in favor of a new doctor in each

community where a health officer is needed to be known as a Doctor of Public Health; and

WHEREAS, Several institutions of learning have introduced courses in public health whereby a layman as well as a physician may be instructed and in a comparatively short time qualify as a Doctor of Public Health (D. P. H.) and be allowed to advise, qualify and practice preventive medicine; and

WHEREAS, In all probability a bill to license a so-called (D. P. H.) will be introduced into the next session of the legislature of Illinois; and

WHEREAS, The Illinois State Medical Society believes that all health officers should first be physicians (M. D.) who have the proper knowledge of the sciences concerned in public health and that such knowledge cannot be gained by any layman in two or three years; and

WHEREAS, Such an arrangement of a layman being a health official places a double expense on the community, since it is necessary to procure the service of an M. D. in addition to a layman; and

WHEREAS, The State confers on an M. D. the right to practice medicine and surgery and all its branches, while the special licensing of a D. P. H. would be special legislation tending to take from an M. D. that right; therefore, be it

Resolved, That the Illinois State Medical Society believes all positions of trust pertaining to Public Health in any community should be held by physicians (M. D.) and not be layman holding D. P. H. licenses; and be it further

Resolved, The Illinois State Medical Society views with displeasure any move on the part of the American Public Health Association which may express a desire to replace physicians as health officials, by layman D. P. H. licences; and be it further

Resolved, That a copy of this resolution be sent to the American Public Health Association, The American Medical Association, The Illinois Department of Health and to every component Society of the Illinois State Medical Society so that they may be acquainted with the proposed activities of a public health association whose president is a layman.

This resolution should be of interest to all the physicians of Illinois, and should be kept in mind during the next session of the Illinois Legislature.

BILL TO EXTEND MATERNITY ACT BEFORE CONGRESS. BRING PRESSURE AT ONCE ON YOUR CONGRESSMAN TO REJECT

Bill to extend maternity act for two years sprung January 13 in House of Representatives. Hearing to be rushed outrageously through Interstate and Foreign Commerce Committee of House tomorrow, January 14. Urge you to bring all possible pressure at once on your Congressman to reject.

WHY ILLINOIS SHOULD NOT COOPERATE WITH THE SHEPPARD-TOWNER ACT

Illinois should refuse cooperation with the Sheppard-Towner Maternity Act from patriotic, moral, hygienic, public welfare, and financial motives.

That is to say, Illinois should refuse to cooperate with the Sheppard-Towner Maternity Act **BECAUSE**

1. It is an insidious attack upon the government of the republic and a potent malefactor against the bodily health of the citizens.

2. It is Socialistic rather than democratic; a political switchback rather than a child preservative.

3. The care of the mother and of the child is a local—even a personal—not a federal function.

4. The encroachment of the state upon the personal relations between the patient and his physician is a genuine and national menace.

5. It is the ultimate and worst form of paternalism and is tending to hinder medical progress and inhibiting individual initiative.

6. The Sheppard-Towner Act fails to give food, shelter, clothing, medicine or medical care for any mother or any child.

7. The Act does put upon the taxpayers and bounty list, herds of investigators, inspectors, record keepers, red-tape winders, and political heelers of every creed, sex and color.

8. Under the provision of the Sheppard-Towner Act the Federal government controls the expenditure of state appropriations.

9. Maternity education should be directed and supervised only by physicians.

10. A fecund breeder of more and higher taxes. The government "gifts" such as "Federal aid" are procurable for the people only by taxes from the people, and

11. The principle of federal state aid as a

means of financing public health work is an unsound financial policy.

12. Morally and legally, the proposition is indefensible. The Federal Government has no more right to collect money from New York, Illinois and Massachusetts and divide it among Montana, Wyoming and New Mexico than it has the right to take money from Jones to give it to Smith. The Federal government collects more money from a millionaire than from a laborer for the Federal government, but it has no more legal or moral right to make Illinois "divide up" with Texas or Alabama than it has the right to make Rockefeller "divide up" with Eugene V. Debs.

13. No such emergency exists as has been claimed for justification of the maternity act and there are no reliable statistics by which it can be proved that the United States stands seventeenth in the maternal death rate, nor can it be proven that the Sheppard-Towner Act controls this situation if did.

14. The means provided in the act will not afford an effective remedy for alleged existing conditions.

15. The distribution of federal funds to state health organizations will inevitably lead to the domination and dictation of state activities by the Children's Bureau.

16. The ability of the Children's Bureau to dictate and largely control the appointment of the head of the Children's Bureau in each state as well as all of the public health nurses, district superintendents and others, will result in the organization of a large body of salaried employes appointed and largely paid by a federal bureau, yet working under a state department of which they are to a large extent, independent. Such a condition will produce friction and confusion in public health work, and will make possible the development of a political machine under the control of the children's Bureau.

17. The problem of reducing maternal and infant death rates is largely a medical problem. Whenever it pleases the Sheppard-Towner Maternity act authorities can work entirely under lay direction and independent of medical control.

18. With the exception of those activities which are clearly national in character, such as quarantine and the regulation of inter-state commerce and the like, public health work is a function of the state and local governments and should be paid for out of state and local funds

and directed by state and local officials. The furnishing of instruction or care to mothers or any other persons needing such instruction is just as much a function of local government as is the providing of food and clothes for the destitute. The assumption and exercise of these functions by the Federal government is an invasion of the legitimate activities of the state.

19. Further, it is: A destroyer of individual rights and a developer of community supervision:

20. A conferrer of a million salaried jobs for political incumbents but not a dispenser of either clothing, shelter, food, medicine or medical care for any mother or any child:

21. A measure that will pay a retinue of politicians to disarrange the domesticity of a citizenry while the political wage is levied high-handedly out of the pockets of those whom the measure assumes to serve:

22. A masterpiece of false witness between politicians and the people, both present and in the generations yet to come:

23. An invader of private morality and an abaser of humanity to the level of animal and poultry bureaus:

24. A socialistic crime committed in the name of education:

25. A lever increasing the powers lodged now in the Department of Labor, as by this bill the Children's Bureau of that portfolio becomes the official arbiter of the vital domesticity of the United States. Per sequence, the temple of every woman's body becomes a political taxable and an asset to ward heelers. Upon a woman's fecundity or lack of it will hinge the bread and butter jobs of a bureaucratic regiment:

26. An inductor of the practice of obstetrics to the rule of thumb of political chicanery and machine manipulation:

27. A fundamental process towards the eventual establishment of a permanent lay dictation of the practice of medical and surgical science:

28. A tax bearing boomerang, rending the citizenry by community, state, county and federal levies for which will be received the octopus burden of a pack of strawbosses that will help no one and hurt many:

29. The principle of federal state aid as a means of financing public health work is an unsound financial policy:

30. Talk and taxes—that's the Sheppard-Towner Act.

SAYS MATERNITY BILL WILL MAKE A MIDWIFE OUT OF UNCLE SAM

(Chicago Tribune Press Service)

Washington, D. C., March 3.—(Special.)—Allowance of the \$1,000,000 for hygienic, maternity, and infancy work under the Sheppard-Towner maternity act, as proposed in the pending department of labor appropriation bill, will make Uncle Sam "the midwife for every expectant mother in the country and the wet nurse for the nation's babies," according to Representative Tucker (Dem., Va.), in the house today.

"This is state socialism," he declared, referring specifically to the \$1,000,000 appropriation for maternity work. "I am against the government appropriating any money to any function which properly belongs to the individual states."

Creation of a federal educational department, under a cabinet secretary, as proposed in the pending Curtis-Reed bill, was attacked today by Senator Edward I. Edwards (Dem., N. J.) as another step toward centralization of power in Washington.

TWO PRESIDENTS AGAINST FEDERAL SUBSIDIES

"For Federal aid to States the estimates provide in excess of \$100,000,000. These subsidies are prescribed by law. I am convinced that the broadening of this field of activity is detrimental both to Federal and State Governments. Efficiency of Federal operations is impaired as their scope is unduly enlarged. Efficiency of State Governments is impaired as they relinquish and turn over to the Federal Government responsibilities which are rightfully theirs. I am opposed to any expansion of these subsidies. My conviction is that they can be curtailed with benefit to both the Federal and State Governments."

CALVIN COOLIDGE.

(Budget Message, Dec. 2, 1924).

"There is another field of Government operations—a rapidly broadening field of Government expenditures—which may be discussed with profit to us all. I refer to expenditures which are being made from appropriations for Federal Aid. . . . There is a question as to how far the Government should participate in these extraneous activities, and I am frank to say that an answer to the question as to whether we can look for-

ward to any further material reduction in the expenditures of the Government in future years depends largely upon whether or not there will be a curtailment or expansion of these activities, which have already added greatly to the annual drafts upon the Treasury of the United States."

WARREN G. HARDING.

(Budget Message, Dec. 5, 1922).

EXTRACTS FROM SENATE DEBATE ON FEDERAL ROAD SUBSIDY

[Editor's Note: The Senate had under consideration House Bill 6971, authorizing an appropriation of \$75,000,000 for 1926 and \$75,000,000 for 1927 for Federal subsidies in construction of highways. Senator David A. Reed, R, Pennsylvania, proposed amendments to diminish the subsidy gradually, which he explained as follows]:

MR. REED of Pennsylvania. Mr. President, this amendment and the amendment which follows it will reduce the amount of the authorization for 1926 from \$75,000,000 to \$60,000,000, and the amount of the authorization for 1927 from \$75,000,000 to \$50,000,000. The purpose of offering these amendments is to set the Federal Government toward getting out of this business of raising money for expenses of the several States.

It seems to me that the President, in his Budget message, was entirely right when he said that this is in effect breaking down the sovereignty and self reliance of the separate States of the Union. I do not feel so much compelled by the argument that the larger States of the East are bearing the greater part of this burden. It seems to me necessary that they must bear the greater part of the burden of all Federal expense, because in them is the greatest part of the wealth of the country. I offer these amendments because it seems to me that this is not a proper Federal expense, and that the sooner the Federal Government gets out of this business of State subsidies the better for all concerned.

(*Congressional Record*, Feb. 4, p. 3085)

Senator William Cabell Bruce, D., Maryland, addressed the Senate as follows, in part:

(*From the Congressional Record*, Feb. 6, pp. 3203-3206)

* * * * *

MR. BRUCE. Mr. President, the President of the United States has made a great many sensible

and judicious observations in the course of his messages to Congress, but personally I do not think that he ever made a more sensible or judicious one than that made by him in one of his recent messages with respect to Federal aid in support of State objects. In that message he said:

I am convinced that the broadening of this field of activity—

That is to say, Federal activity in the field of State administration—

is detrimental both to Federal and State Governments. Efficiency of Federal operations is impaired as their scope is unduly enlarged. Efficiency of State governments is impaired as they relinquish and turn over to the Federal Government responsibilities which are rightfully theirs. I am opposed to any expansion of these subsidies. My conviction is they can be curtailed with benefit to both the Federal and State governments. * * *

I think that the time has come when all of us should ask ourselves, as the Senator from New York [MR. WADSWORTH] suggested yesterday, how far this system of Federal subsidy is to go. I think that we should all also ask ourselves, as the Senator from Pennsylvania [MR. REED] has suggested, whether the time has not come when Federal aid in the matter of State roads, if extended at all, should not be extended in a diminished degree, perhaps in a degree that should lessen from year to year, and in process of time cease.

I think that there are many circumstances, as has been said by the Senator from Ohio [MR. FESS], under which the country, in the matter of Federal appropriations, should be treated as a unit. Under ordinary circumstances it would not do for the sovereign States of the Union to enter into a scramble with each other as to how much or how little they were to contribute for the public benefit where national objects were involved. Usually each State of the Union should be glad, in proportion to the extent to which it has been endowed by fortune with its blessings, to contribute to the general good. That is elemental; that is fundamental. * * *

The State that I have the honor, in part, to represent is no such State as New York. It can not be said that it contains any such great emporium of commerce, any such cosmopolitan metropolis as the city of New York. It is no over-

flowing cornucopia. No golden streams pour from every portion of the United States into its coffers. For their prosperity its people have been largely dependent upon their own domestic exertions. Therefore, it would be impossible, it seems to me, for anyone justly to assign to the State of Maryland any peculiar degree of selfishness were she to contend that this burden of Federal aid rests upon her more unequally than it should. But the fact that it does rest upon her unequally cannot be denied. She pays a large amount of taxes of one description or another into the Federal Treasury, and she receives back in the form of State aid only 2.77 per cent of the amount. It is also a fact that the expenses of the Federal Government imposed upon her people constitute a per capita tax burden four times as heavy as that which the expenses of her own State government impose upon her.

When it is recollected that the State of Nevada receives in the form of Federal aid 116 per cent of the taxes that she pays into the Federal Treasury, and that other States of the Union are in very much the same situation, abstractedly speaking, it certainly seems to be a little unfair, indeed, quite unjust, that the Federal Government should regurgitate, so to speak, in the form of Federal aid, such a small percentage of the taxes that we paid to it during the last fiscal year as 2.77 per cent.

I might add, in this connection, that some of the Members of this body who are opposed to the amendment of the Senator from Pennsylvania [MR. REED] appear to have lost sight of the very small percentages of return made by the Federal Government to their States of the Federal taxes paid by them. If I understand it, the Senator from North Carolina [MR. SIMMONS] is antagonistic to the pending amendment; at least, I draw the inference from what he has said that he is. * * *

MR. BRUCE. The State of North Carolina, in the Federal fiscal year ending in 1924, paid into the Federal fist in taxes the enormous sum of \$157,973,393, and it received back in the form of Federal aid only 1.18 per cent of this sum * * * I should think that the Senator from North Carolina would have to enter upon a very nice calculation indeed to satisfy himself that the collateral advantages of which he speaks would

be sufficient to offset the fact that while his State paid in taxes to the Federal Treasury in the fiscal year ending in 1924 as much as \$157,973,393, it has paid back in Federal aid in one form or another only 1.18 per cent of that amount. * * *

The Senator is apparently satisfied, notwithstanding the extraordinary toll that is exacted from his State by the Federal Government in the form of taxes, that his State reaps the benefit of so many collateral advantages resulting generally from road building as to countervail the extraordinary contribution that it makes to the Federal Treasury in taxes. * * *

Now, I desire to call the attention of the Senator from Virginia [MR. SWANSON] to the fact that the percentage which that State gets back from the Federal Government in the form of Federal aid is most insignificant. During the fiscal year ending in 1924 the State of Virginia paid into the Federal Treasury in taxes of all kinds the sum of \$45,991,886 and got back only 3.47 per cent of that amount. The same meager percentages apply to numerous other States—California, for instance, which gets in the form of Federal aid from the Government only 1.91 per cent of what she pays in taxes into the Federal Treasury; Connecticut, which gets only 1.45 per cent; Delaware, which gets only 3.51 per cent; Florida, which gets only 5.75 per cent; Illinois, which gets only 1.05 per cent; Indiana, which gets only 4.44 per cent; Massachusetts, which gets only 0.86 per cent; Michigan, which gets only 1.5 per cent; New Jersey, which gets only 0.98 per cent; New York, which gets only 0.58 per cent; Ohio, which gets back only 1.41 per cent; Pennsylvania, which gets back only 1.38 per cent; and so on. These figures are all taken from a table which was published last December in the *Washington Post*, and if there is no objection I would like to have it inserted in the *Record* at this point.

The PRESIDING OFFICER. Without objection, it is so ordered.

The table is as follows:

Proportion of Federal subsidies to United States taxes paid by each State

(From the *Washington Post*, December 28, 1924)

This table shows the amount of Federal taxes

each State paid in the last fiscal year and the amount the State received in Federal aid.

State	Paid in Federal taxes	Received as State aid ¹	Per cent
Alabama	\$ 9,800,970	\$1,705,610	17.40
Arizona	2,131,288	995,331	42.00
Arkansas	6,536,635	1,361,459	20.82
California	129,026,453	2,475,800	1.91
Colorado	15,223,037	1,294,448	8.50
Connecticut	37,006,532	538,009	1.45
Delaware	10,805,101	379,330	3.51
Florida	15,819,827	910,084	5.75
Georgia	19,181,446	2,137,684	11.14
Idaho	1,976,084	905,827	45.08
Illinois	214,840,722	3,390,701	1.57
Indiana	45,767,607	2,034,555	4.44
Iowa	17,946,204	2,149,551	11.97
Kansas	20,735,282	2,036,124	9.81
Kentucky	28,574,914	1,592,612	5.57
Louisiana	20,427,382	1,099,011	5.37
Maine	13,945,902	704,496	5.05
Maryland	34,349,218	714,774	2.77
Massachusetts	138,681,654	1,196,042	.86
Michigan	221,380,005	2,339,480	1.05
Minnesota	31,586,633	2,157,830	6.83
Mississippi	4,949,236	1,428,199	28.55
Missouri	68,794,487	2,503,602	3.62
Montana	2,958,039	1,448,635	48.97
Nebraska	10,791,615	1,555,586	14.41
Nevada	761,499	885,759	116.31
New Hampshire	5,805,346	387,827	6.68
New Jersey	112,260,046	1,109,187	.98
New Mexico	1,131,323	1,119,086	98.91
New York	690,415,425	4,020,445	.58
North Carolina	157,973,393	1,873,830	1.18
North Dakota	1,282,838	1,142,382	89.05
Ohio	153,524,832	3,026,236	1.97
Oklahoma	13,520,536	1,813,931	13.41
Oregon	10,500,237	1,138,143	10.83
Pennsylvania	269,688,619	3,796,118	1.40
Rhode Island	20,239,353	371,864	1.38
South Carolina	8,938,278	1,178,110	13.13
South Dakota	1,951,248	1,175,515	60.24
Tennessee	18,633,646	1,754,211	9.41
Texas	36,863,758	4,448,314	12.06

—*Woman Patriot.*

LUTHER BURBANK NOT QUALIFIED TO PASS JUDGMENT ON MEDICAL SUBJECTS

The Egotist Interferes Again

Another egotist is up for judgment. This time Luther Burbank, botanist extraordinary and known internationally as "the plant wizard" has had such an expansion of emotion towards his fellow man that he is about to join the ranks of lay dictators of the practice of medicine.

Just why excellence in any particular branch of work should seem to envelop an individual with a protean skill in other branches is beyond the ken of any except the master alienist. Super-psychologists realize the baneful effects of "delusions of grandeur." With egotists, achievement in one line is prone to engender the idea that similar wisdom exists, even upon subjects with which they have had little, if any, experience and possess less, if any, accurate information.

Luther Burbank is conceded a marvel in his own profession. But it is going a bit too far to have a Swiss psychologist reported as saying

that Mr. Burbank possesses "great healing powers by the mere laying on of hands."

And it is going much too far when Mr. Burbank comes out and decries the scientific necessity of vivisection. He is quoted as saying "To vivisect our helpless fellow-travelers along the way is certainly absolutely, wholly, cruel, wrong, unnecessary, inhuman and barbarous. To torture a helpless animal for the amusement or instruction, even of pupils, is in my opinion, devilish to the last degree."

Poor Mr. Burbank! No matter how much he may know about plants, it is only too evident that he knows less than nothing about people and the meaning to human welfare of scientific animal experimentation. He is ignorant of the manner in which scientific medicine attains triumphs, and of the non-alternative methods for medical research workers who are proceeding upon the solution of tense problems, both of the present and of the future. To give proper service to patients, the modern hospital needs for routine tests and for investigations, many kinds of animals, including dogs, just as the medical schools require the same material for the proper education of doctors. Surgical methods and anaesthesia owe the greater portion of their improvement to experiments based upon canines. In many vital experiments determining the action of drugs, the subject has been a dog. A long list of diseases, ailments and accidents owe the technique for their care, or even prevention to animal experimentation. Diphtheria, lockjaw, and childbed fever, scarlet fever and cancer are only a few that need be mentioned. Through these experimental methods have come discovery of drugs that relieve both men and animals. From experiments upon dogs came the discovery of insulin. The unceasing fight on disease is one of the greatest and most continuous steps in the crusade of progress. Now, if scientific men heeded the would-be sagacity of Burbank, and abandoned animal experimentation, only too soon, the science of medicine would revert to the art of witch-craft and the shallow speculations of magicians and the mysterious manners and ways and means of the Middle Ages.

Mr. Burbank's "laying on of hands" may be beyond cavil in some instances. Probably this is what he does in the question of plant pests.

For the most of the parasites and foes infecting plants, the method of "laying on of hands" would seem to be about all that is required. A forceful pinch between thumb and forefinger can kill a slug or devastate the personality of almost any vegetable louse. For the animal kingdom, the rules differ.

To Mr. Burbank is referred a reconnoitering of the old maxim: "Cobbler stick to your last."

ACTIVITIES OF THE SANGAMON COUNTY MEDICAL SOCIETY

Springfield, Illinois.

January 8, 1926.

*Mr. President and Members
of the Sangamon County Medical Society:*

The Public Relations Committee submits the following report of its activities for the year 1925:

1. Recognizing the fact that the continued welfare of the private practice of medicine and of public health activity rests upon a basis of common interest and mutual advantage, your committee feels that the county medical society should maintain the leadership in all matters pertaining to the public health within its jurisdiction. By reason of a very close contact and cordial relationship between this committee and the local superintendent of health, a physician well trained in public health administration, the society has maintained such a leadership during the past year.

2. A most important achievement has been the establishment of a modern isolation hospital which will replace the present obsolete and distressing facilities for the care of communicable disease cases. This committee, working in conjunction with a special committee of the society and with the local superintendent of health, developed a policy which was formally endorsed by the society, advocating the construction of such a building by one of the local general hospitals. The Springfield Hospital authorities were approached, and they stated that they were not in a position to handle the project. The St. John's Hospital generously agreed to undertake the enterprise, provided the necessary \$100,000 plus interest charges for a period of five years could be raised, with the understanding that at the end of this period they would assume the entire obligation. The Springfield Council of

Social Agencies sponsored the project and raised the \$100,000 by forming an Isolation Hospital Securities Company among its board of directors. The city and county authorities each made an annual appropriation of \$3,000 for a period of five years to cover the interest charges. The new building, which is now under construction on the general hospital grounds of St. John's, will be ready for occupancy in March, 1926, and will be operated as an integral unit of that institution.

3. Acting under the instructions of the society, this committee made the following recommendations to the city board of education: 1. that the city superintendent of health be appointed supervisor of hygiene in the public school system, with full authority to direct the activities of the school nurses and to formulate all policies pertaining to the health of school children; 2. that provision be made for the establishment of a modern open air school, and 3. that a room for mentally ungraded children, formerly in operation, be re-established. The board of education heartily accepted these recommendations, the suggested appointment and appropriations were unanimously voted, and the new policies are now in force.

4. In order to raise the standards of public health nursing practice within the jurisdiction of the society by avoiding duplication of effort and lack of adequate supervision, this committee has favored a centralization of administration by a definite co-ordination of all official and voluntary nursing services with the city health department. To obtain this result, it was recommended that a competent director of nurses be employed to work out such a program under the immediate supervision of the city superintendent of health. The Springfield Council of Social Agencies, in conjunction with the local Red Cross chapter, has provided the necessary funds, and an appointment to this position will be made at an early date.

5. The newly created Sangamon County Children's Bureau requested through this committee the society's endorsement of the contemplated child guidance clinics to be held in this city under the auspices of that bureau by the state Institute for Juvenile Research. Upon a favorable report by this committee, the society endorsed this important phase of mental hygiene

activity and appointed a special committee to represent the profession in the movement.

6. As the result of a suggestion by this committee to the city superintendent of health, a biological service station for physicians has been established at the No. 1 fire station adjacent to the city hall. Diphtheria antitoxin, antityphoid serum, silver nitrate, and similar products furnished by the state, may be readily obtained at any hour of the day or night. This service is available to all physicians in Sangamon and adjoining counties.

THE SHORTEST WAY POSSIBLE TO BRING ABOUT STATE MEDICINE

The following is from the January issue of California and Western Medicine:

A well-known wealthy California business man writes:

"About two years ago, my wife wanted a marble-sized cyst removed from the fleshy part of her arm. Our family doctor said that, while it was a simple matter, he thought Doctor X Y Z, a well-known surgeon, could probably do it more skilfully, with a smaller resulting scar. Surgeon X Y Z removed the thing in his office. He deadened the pain with an injection, and we were in his office possibly a half-hour. There was one visit to his office some days later, and we have not seen him since. I was surprised a few days later to receive a bill for \$1000. At first I thought of contesting the amount, but we decided to pay it and use our influence thereafter to protect our friends against falling into the hands of such a grafter. *We have tangible evidence of our success, which we interpret as a public service.* The greatest consolation we have had out of the experience is that, when explained to our family doctor, he commended our course."

Another successful business man relates his experiences with Doctor A B C, who sent him a bill for \$5,000 for a simple uncomplicated operation for removal of the appendix. Another victim writes: "What's getting into you doctors, anyway? You can't all be grafters, but unless you take up and solve some of your problems and, in particular, shear some of the dirty crooks who wear the cloak of your noble calling, it is not difficult to foresee dire consequences."

And so it goes, and not all the complaints by any means come from victims. Decent doctors

are as much exercised over the apparently increasing number of medical Ponzi's as are other people.

One of the leading physicians of California writes:

"I have been very much impressed in the last several years by the very high fees which some men in our profession are charging, and I have seen a very goodly number of lay citizens shake their heads at the medical profession. The impression is growing that the reason we all of us don't do this kind of thing is simply because we do not dare. It certainly would be a dreadful state of affairs if the lay public got it into their heads that the medical profession was in one sense a group of 'hold-up artists.'

"Not long ago one of my banker friends told at a dinner party of this experience with a doctor:

"It seems that a wealthy easterner, an elderly man who came West every winter, went down with pneumonia. A well-known doctor was called in, and he in turn called another doctor in consultation. The old gentleman died. The banker was called upon to make arrangements to take the body back East. The illness lasted about two weeks, and the bill for the first doctor was \$15,000 and the bill of the other was \$5,000. The banker had been instructed to settle up all debts, and he went to these doctors and they smiled him out of their offices at the mention of a reduction in the fee. He then went back to them with a compromise offer, of something like \$5,000 and \$1,000. Again he was smiled out of their offices. He then went to a very well-known lawyer and said, 'get these birds,' and I think they settled on the basis of \$500 and \$250, respectively.

"I confess I do not see the way out, but I do believe that a bit of editorial comment from time to time, dealing with the significance of the practice of the art of medicine and its ethical and social obligations, as contrasted to the purely financial considerations and motives, might be of real service in holding some of the younger men, who hear about these expressions of extensive commercialism, along the decent path of proper medical practice.

"Pardon my sending you all this stuff, but I know your deep interest in all things that concern the welfare of the medical profession, and I feel that you will give the matter thought, and

at a suitable time such expression as may seem proper."

Another prominent ethical doctor writes:

"Recently, while visiting in a small California city, Doctor John Doe told me (giving names and dates) that one of his old friends, Mr. Duplex, had been under the care of Doctor Catchem. The only positive findings were three dead teeth, but there was laboratory work done each day and a 'vaccine made from the blood,' and a bill rendered for six weeks' services of \$7,500. The doctor told the patient that he was on his way to Europe to lecture before the Royal College of Physicians, and on his return would deliver a series of lectures at the Mayo, etc. He suggested that Mr. Duplex put himself in his care and he would keep him well for \$2,500 a year—this meant monthly examinations. He stated that Mr. A. paid him a retainer of \$15,000 a year and that Mr. B, the banker, paid him \$10,000 a year, and so on.

"The whole process sounds like the routine of a quack. If it is true it is a very lucrative business. I am curious to know whether this form of 'health insurance' is being carried on in the state of California, and if so if it is ethical. I am not sending this letter in the form of a complaint, but merely to satisfy my curiosity and to relay the information to Dr. John Doe. I am sorry to bother you with the matter, but I thought you would be more interested in it and have information about these doctors."

These are isolated instances of panhandling, to be sure, and we have others much worse than these, but difficult to disguise without destroying the point aimed at and too disgraceful to publish, even were it expedient to do so. When our collection of these depressing narratives gets a little larger, we propose to tabulate them for the information of the profession. It seems that the majority, if not all these commercialists, have certain common and obvious characteristics: They are amazingly egocentric, pompous, and invariably severely destructive critics of their own organizations and the "moss-covered ethics" that their more worthy colleagues love to honor. The most stupid characteristic of these gentry is that they act as if they thought their well-covered heads also made invisible their slimy coats of muck, whereas their doctor acquaintances know

them, and more and more of their patients are finding them out.

Is there a cure for this "cancer" that is getting a hold upon a humanitarian profession? Of course there is, but it may require some fearless surgical work without too much anesthetic. We don't want to wash dirty linen in public, but only the sunshine and breezes of the great open places will remove some odors and bleach certain materials.

THE PREVENTION OF BALDNESS

Dr. Louis B. Mount of the State Department of Health of New York in a recent radio talk said:

That he deprecates the advice of the barber or hair dresser and states that so-called beauty specialists are wholly ignorant of the most elementary principles of medicine. He gives some sane and simple advice about the care of the scalp and hair in order to prevent baldness and urges those whose crowns are thinning to seek the advice of their family physicians.

"Loss of hair or alopecia as it is called technically," said Dr. Mount, "is a cosmetic defect due to many causes. Some of these are beyond our control but many of them we can regulate.

"The hair being a part and parcel of the body, it demands just as much care and attention as other parts. This care should begin in childhood. It is not necessary or advisable to wash too frequently a child's scalp when it is in a normal condition. Cleanliness is the only purpose of the shampoo. The normal scalp of the child is usually fairly free of fat, so it is well to apply a grease such as olive oil after washing to prevent abnormal dryness. In children the scalp should be watched for the appearance of scaldiness and when this occurs suitable treatment should be instituted.

"Harsh and irritating substances should be kept away from the scalp. The purpose of washing the hair and scalp is to remove dirt and it should be done with the least amount of chemical irritation. This is best accomplished by using a soap in which the excess of alkali has been neutralized—a so-called neutral or superfatted soap. Fancy soaps are fancy in price only; they possess no virtues which make them desirable for the purpose under discussion.

"One of the contributing causes to loss of hair

is unquestionably the wearing of tight, constricting head coverings. The so-called hatless craze is a step in the right direction for it not only does away with any constriction of the scalp but exposure to the rays of the sun has a marked stimulating effect on the regrowth of hair. However, consideration must be given to climatic variations in certain sections of the country and undue exposure avoided.

"It has been estimated that normally a person loses about forty hairs each day. The important point to consider is not so much the number of hair lost as the quality. It has been shown that if, in the accumulated combings of three consecutive days, the number of hairs under six inches in length form one-third of the total number lost, there is a disease of the scalp which requires medical attention. Of course, this only applies to the female sex not including those who have boyish bobs. In the case of the latter and of males the distinction is made by differentiating those hairs which show traces of the barber's scissors from those which have a pointed end. The number of these must be only one-fifth or one-fourth of the total of hairs four inches in length.

"When thinning of the hair becomes apparent most people accept the advice of the ever ready barber or hair dresser who talk glibly about the necessity of singeing the hair in order to seal up the pores after cutting. This is a perfectly ridiculous procedure and accomplishes absolutely nothing. One after another the whole gamut of so-called hair tonics or washes are tried, but all in vain. Many fall into the clutches of the non-medical self-styled beauty or hair specialists, people wholly ignorant of the most elementary principles of medicine. The hair seeker is told that his hairs are coming out with their roots. Nothing could be more untrue than such a statement. The lowest part of the shaft has a small swelling, the bulb, always pointed out as the root, but which really has no connection whatsoever with the growth of hair.

"So if your hair is disappearing, why not be sensible? Consult with your family physician. If he cannot help you or does not feel that he is qualified to advise you, he as your friend will surely direct you to some one else who will interest himself in your condition."

RELATIONSHIP OF SCHOLARSHIP TO THE USE OF TOBACCO.

Dr. Rosslyn Earp, Director of the Medical Department of Antioch College, has made a study of the relationship between scholarship and the use of tobacco. In the summary of his study he says:

A careful study of smoking among men students at Antioch does not disclose any permanent effects of smoking upon blood pressure, lung capacity, or pulse rate; but a definite relationship is established between smoking and low scholarship. Among men students, 31.8 per cent. of nonsmokers fail to maintain required grades, while 62.3 per cent. of heavy smokers similarly fail. "Inhalers" fail most often. Before this study began, the more susceptible smokers had been eliminated, since many more smokers than nonsmokers had failed and been dropped from college.

ANTIOCH IN BRIEF

The Antioch purpose is to bring about a balanced development of character, intelligence, and power. Any novelty in its program is due to the endeavor to correct prevailing disproportionate emphasis upon elements of personality or of environment. Antioch combines in six years a liberal college education, vocational training, and apprenticeship to practical life.

Required courses include widely varied liberal subjects, and training for physical health and economic sense. Vocational courses help students decide upon their vocations and prepare for callings such as engineering, business administration, journalism, home and institutional management, and education. Administrative ability is emphasized, rather than specialized technique.

Half-time practical work in alternate five-week periods develops responsibility and helps students to decide upon and prepare for vocations.

THE MATERIAL FOR RESEARCH

A study of smoking among men students at Antioch has been pursued with thorough care and in accordance with sound statistical methods. Antioch students provide material of quite unusual value for such a study. Nearly all parts of the country are quite uniformly represented. About half the men smoke, and these do so openly. There is no motive for secrecy or deception. The men have shown interest in the research, assisting generously with information.

The data included that supplied by the students about themselves; that recorded during the physical examinations, not indifferently or in haste, but with a knowledge that accurate measurements would be needed for statistical research; intelligence tests made both before admission and in college; and the "grades," which are the carefully considered verdicts of the faculty on each student's scholarship.

All scholastic grades were reduced to the basis in use when the study began in 1933-1924, in which a grade of "C" equals 3, "B" equals 4, and "A" equals 5.

SMOKING AND ATHLETICS

In actual experience at Antioch, nonsmokers seem to do slightly better in athletics than smokers. In

track meets during the past two years they have gained an easy majority of points. On the other hand, all important events in our first swimming meet, held last spring, were won by two experts, both of whom were habitual smokers.

Of 177 students who now smoke, 74 gained athletic "letters" at high school or preparatory school, and 21 have won the college letters. Of 176 students who do not smoke, only 56 gained athletic letters at high school or preparatory school, but they also include 21 representatives with college (Varsity A) letters.

The tentative conclusion is that high school athletes tend to take up smoking, and so increase the number of athletes among college smokers, but that the smokers do not retain their pre-eminence in sports. This conclusion is supported by the fact that of students who began smoking in high school, 37 have high school letters, but of these only three have gained college letters by accomplishments in athletics at Antioch.

SMOKING AND PHYSIQUE

Those who believe most firmly in the poisonous effects of tobacco commonly maintain that its use increases the speed of the pulse and alters blood pressure. There is some experimental evidence that in many cases these effects do follow immediately after smoking. If the speeding effect were permanent it would reduce the reserve power of the heart, and we should expect the athletic smoker to be handicapped by this loss of reserve.

Unfortunately for this theory, the average smoker's heart was found to be one-fifth of a beat per minute slower than that of the nonsmoker—probably a chance variation. We found no significant difference in the blood pressure or in the lung capacity of the two groups. If from one to six years of moderate smoking causes any permanent effect on the human machine, we have yet to discover it. If a moderate use of tobacco causes a temporary but not a permanent loss of physical efficiency in these respects, then the claims of those who oppose the use of tobacco must be modified.

SMOKING AND SCHOLARSHIP

Of 23 men dismissed from Antioch last year for low scholarship, 20 were smokers. This fact bears upon all the following statistics. As the poorest students are dropped, the average grade of the remainder is higher. If most of those dropped are smokers, then the smokers remaining in college are a selected group who are less affected by the association of smoking with low scholarship. Were it not for such elimination, the scholarship of smokers would appear still more unfavorably.

On the basis of grading which prevailed when this study was undertaken, an average grade of 3.2 was required of students. A grade of 4 or higher was made by 23.9 per cent. of nonsmokers, and by 7.9 per cent. of smokers. The average grade of 176 nonsmokers last year was 3.51; that of 177 smokers was 3.14. The difference is .37. The mathematical probability of such a difference arising by chance is only one in 730 millions. The difference in scholarship of

smokers and nonsmokers is real, with some assignable cause.

We cannot at once conclude that the habit of smoking is that cause. It might be a third factor. For example, sociability may be associated both with smoking and with low scholarship. So we investigated further.

We found that heavy smokers have lower grades than light smokers. Heavy smokers average 3.00; light smokers, 3.23. More heavy than light smokers fall below diploma grade. (Students falling below diploma grade, 3.2, must improve scholarship or leave college.) Of nonsmokers, 31.8 per cent. fall below diploma grade; of light smokers, 43.0 per cent; and of heavy smokers, 62.3 fall below.

Smokers who "inhale" have lower scholarship than those who do not. Of all smokers who do not inhale, 42.4 per cent. fall below diploma grade; but of those who do inhale, 43.8 per cent. of light smokers, and 65.1 per cent. of heavy smokers fall below.

Smokers remaining in college fall steadily in scholarship (from 3.56 to 3.31 in three years). Nonsmokers maintain a nearly uniform average.

With these figures before us, it is hard to avoid the conclusion that smoking is actually a cause of mental inefficiency.

In 1921 Antioch launched its new educational program almost without resources. The total expenditure for 1919-1920 was less than \$15,000.

Antioch was chosen for this new undertaking in part because of the great variety of vocational interests in the region, and for the remarkable beauty of the campus and of the wooded streams and rugged valleys adjoining. More especially its very poverty made possible freedom to plan and execute, impossible in a prosperous, conventional college where tradition is rigid.

Four years' operation has confirmed the wisdom of this course. Antioch is blazing a new trail in education. But finances have been most difficult. Adequate resources are yet to be secured. The annual budget is \$250,000, of which \$100,000 must be found through contributions. Men of means tend to "wait and see," until the years of risk and adventure are past, and many friends require time to make adjustments in their budgets. Your help just now, even to a moderate degree, may mean much to the destiny of Antioch.

PHYSICIAN WANTED TO ASSIST REGISTERED NURSE IN CARE OF PATIENT.

THE TAIL WAGGING THE DOG

In a recent edition of *The New York Times* appeared a wholly unique advertisement. We reproduce it for the opportunity it offers some deserving doctor:

"PHYSICIAN wanted—M.D. preferred, to assist registered nurse in care of patient. M157 Times."

Here is a nurse who has carried the present trend to its logical conclusion. It is a sentimental concession to Auld Lang Syne which gives "M.D." the preference? In behalf of medical applicants for the position, we thank M157 and are duly grateful.

The "ad" has a humorous flavor somewhat reminis-

cent of Lewis Carroll. It seems to foretell a new looking-glass-land, where sinners preach to the clergy, the rabbit hunts the fox, and generals serve sergeants to the tune of "All the World Is Upside Down."—*The New York Medical Week.*

ANAPHYLACTIC REACTIONS FOLLOWING ADMINISTRATION OF SERUMS

TO CHILDREN PREVIOUSLY IMMUNIZED AGAINST
DIPHTHERIA

Chester A. Stewart, M. D., Assistant Professor, Department of Pediatrics, University of Minnesota, Medical School, Minneapolis, in the *J. of A. M. A.*, says:

The administration of diphtheria toxin-antitoxin to render children immune to diphtheria is unquestionably a valuable procedure, although having the distinct advantage of sensitizing these individuals to horse serum. Subsequent administrations of serums as therapeutic and prophylactic measures undoubtedly are accompanied with the danger of anaphylactic reactions. As a result of the widespread employment of toxin-antitoxin preparations for active immunization of children against diphtheria, clinicians undoubtedly will encounter an increased frequency of the incidence of anaphylactic reaction following subsequent administration of serums to these sensitized patients. I have recently had seven such instances, all of which occurred in children who previously had been immunized against diphtheria.

The first instance occurred following the administration of a prophylactic injection of antitetanic serum to a child who had received immunizing doses of diphtheria toxin-antitoxin one year previously. Promptly following the injection of this serum, the breathing became rapid, and a diffuse erythema of the skin developed, of severe intensity. Ten minims (0.6 c.c.) of epinephrin was administered, which gave prompt relief. One week later, a generalized urticaria accompanied by intense itching and enormous wheals developed. Marked angioneurotic edema appeared, involving the tongue, face, hands and feet. Four subsequent similar attacks of equal severity occurred at intervals of from three to four days.

Five additional cases of anaphylactic reactions were seen following the administration of prophylactic doses of scarlatinal antistreptococcic serum to children exposed to scarlet fever. All the children had been immunized against diphtheria from eight to eleven months previously. In each instance the cutaneous manifestations, such as urticaria and angioneurotic edema, were of such severity as to be alarming. In the most severe of the five cases the temperature rose to 104 F. on the second day, and the child had severe vomiting attacks every half hour for twelve hours, which promptly subsided after a subcutaneous injection of 20 minims (1.25 c.c.) of epinephrin. One day later, vomiting recurred, which again subsided on the administration of epinephrin. At this time an edema appeared, involving the left arm, of such intensity as partially to immobilize the elbow. Six subsequent exacerbations of anaphylactic manifestations of varying severity occurred in the patient at intervals of from one to three

days. In this instance, a desensitizing dose of a few minims of the scarlatinal antistreptococcic serum had been injected subcutaneously two hours before the administration of the entire dosage (10 c.c.), but failed to prevent the serum reaction.

The seventh anaphylactic reaction occurred following the injection of diphtheria antitoxin. This child, three months previously, had been immunized against diphtheria, but apparently had not developed an immunity to the disease. The reaction in this instance was much milder than in the other six cases.

DANGER IN USE OF ANTITOXIN CONTAINING HORSE SERUM

Although no deaths occurred among these seven patients, nevertheless the reactions experienced probably should serve as a warning to use care in the administration of serums, derived from horses, to children who have been previously sensitized by injections of diphtheria toxin-antitoxin. A complete avoidance of serum sensitization undoubtedly is highly desirable. As a result of recent studies at the University of Minnesota, a method is being perfected by means of which children may be immunized against diphtheria without the employment of serums. The perfection and standardization of this method unquestionably will prove a distinct and important contribution to medical science.

Attention is called to danger of the occurrence of anaphylactic reactions following the administration of various antitoxins containing horse serum to children who have been sensitized to this serum through diphtheria immunization. Active immunization of the child population against diphtheria is so important, however, that the development of a method by which an immunity to this disease may be acquired without serum sensitization is highly desirable.

SHOULD THE SCHICK TEST BE ABANDONED?*

WILFRED H. KELLOGG, M. D.,

*Director Bureau of Communicable Diseases, California
State Board of Health, Berkeley, Calif.*

In an article in the current number of the *Journal of Public Health* says:

The procedure of Schick testing preliminary to immunization has been so generally recommended and has become so well established that the two are indissolubly linked in the minds of most of us, and it would almost seem that the idea was sometimes harbored that the Schick test was a necessary part of the process of immunization; but in this paper evidence is presented to support the contention that the Schick test for diphtheria susceptibility should be abandoned absolutely, not only in private but also in public health practice.

An extensive and accumulating experience in the Schick testing of large groups of persons, both children and adults, and the retesting of them after toxin-antitoxin immunization, has brought to light a number of sources of error that constitute a danger both

*Read before the 54th Annual Meeting of the California Medical Association, Yosemite Valley, Calif., May 19, 1925.

from a public health standpoint and as regards the welfare of the individuals concerned. These drawbacks to the use of the test have not been generally recognized, although some of them have been noted by others; but there has been voiced no appreciation of the seriousness of the situation nor any question as to the advisability of modifying the practice regarding the use of the test in connection with the immunization of children against diphtheria.

ERRORS DUE TO PROTEIN SENSITIVENESS

The occurrence of reactions due to sensitiveness to some of the proteins of the toxin mixture is a great and hitherto unappreciated source of error in the interpretation of the readings of the Schick test. It is the general understanding that protein reactions can be easily distinguished by using a heated control to compare with the test reaction, the theory being that the protein reaction reaches its height in 24 to 48 hours, while the Schick is not fully developed until 96 hours have passed. Furthermore, the protein reaction is expected to fade quickly, being about gone when the positive Schick is at its height. This is in the main correct, but there are so many variations such as rapidly developing and quickly fading toxin reactions and slow fading protein reactions, that many errors result; more than would ever have been thought possible or known, had it not been for the large series of Schick tests controlled by the guinea pig method that have been observed.

The difference in color between the true toxin reaction and the protein reaction is frequently not demonstrable. Protein reactions oftentimes have a bright red color instead of the purplish tinge which is expected to help in distinguishing between the two, and sometimes even these characteristics seem to be slightly reversed. The error from protein reactions is usually that of interpreting them as a positive Schick which is on the safe side, but the opposite sometimes happens. The percentage of error in reading reactions in those who are protein sensitive is, in the hands of even the most experienced, frequently as high as 50 per cent.

In one group of 94 persons in the Eldridge State Home tested by both methods and selected because of the occurrence of pseudo reactions, there were 22 that could not be decided between positive and negative by the Schick test. Of these, 4, or 18 per cent, were found to be unprotected and 18, or 82 per cent, were found to be immune by the Kellogg¹ test. One case reported as having a negative pseudo reaction, was found to have no antitoxin and two that were read as positives were found to be protected. This makes an error of 27 per cent in the readings of this group. A group of university students gave an error of 10 out of 46. In a group of 66 persons tested in the California School for the Deaf and Blind 14 were read as combined positives. Of the 14, 7 were found to be actually unprotected while 7 had antitoxin in protective amount. The error was 50 per cent but on the safe side.

One child in Willits and one in Ukiah developed diphtheria, one in January, 1924, and the other in No-

vember, 1924. Both of these children had been regarded as showing negative pseudo reactions in October, 1923, and consequently they had not been given the toxin-antitoxin with the others. The error in this case was unavoidable as the Schick test readings were made by two highly competent persons, epidemiologists in the State Department of Health with a record of thousands of tests to their credit. A boy in the Sonoma State Home, tested by us in April, 1923, was regarded as having a negative pseudo reaction; no toxin-antitoxin was given, and in December, 1924, he developed diphtheria.

POSSIBILITY OF LOCAL IMMUNITY

When a straight Schick negative occurs in a susceptible person and the toxin used is known to be potent, about the only explanation possible is that there are differences of reactivity in different skin areas of the same individual, accounted for possibly by some form of local immunity. It is difficult, of course, to accept this explanation in the case of toxin susceptibility but apparently it must be considered.

In several tests that have recently been made in which two separate Schick tests were placed on the same arm, one above and one below the elbow, it was noted that there was frequently a marked difference in the degree of reaction in the two locations. In one case, the protein reaction was noticeable on the lower arm and absolutely nothing was observed on the upper arm. In two cases very severe positive reactions occurred on the lower arm and very slight reactions on the upper arm. In another case, this arrangement was reversed, non reaction appearing on the lower arm, but a definite positive Schick developing on the upper arm. All of these variations occurred in a group of 11 persons.

Evidently, the series of duplicate tests in the same individual made at the same time, reported by Park², in which 2 per cent showed one positive and one negative reaction, is to be classed in the same group as to cause. This means 2 per cent of false negative reports, a serious matter for the persons concerned. In the Ukiah group, a child of 8 years gave a straight negative Schick in October, 1923, and accordingly was not immunized. In February, 1924, she developed diphtheria. An inmate of the Sonoma State Home at Eldridge was Schick tested by us in April, 1923, the result being a straight negative. In 1924, he was reported as having diphtheria, although in this particular case there was no bacteriological confirmation. Dr. Sippy of Stockton has reported a case that gave a negative Schick test in May, 1924, following toxin-antitoxin immunization, and which developed diphtheria in June, 1924.

These examples of false negative Schick tests are not to be explained by lack of skill and experience on the part of the operators. Leaving ourselves out of consideration, if the skill of Park and his associates is not a guarantee against false negatives due, so far as we know, to the manner of making the injection or possibly to variation in local skin reactivity, it follows that this must occur everywhere, and it will be a

safe assumption that Park's figures of 2 per cent represent the absolute minimum of such errors.

Further examples of false negative Schicks are found in those persons giving a positive Schick reaction after a previous negative one. Two children in the Ukiah schools who were found negative in October, 1923, were found positive in October, 1924. One or the other must have been wrong, unless an immune person can lose his protection. The latter possibility has evidently not seemed likely in the minds of investigators generally. The well-known steady increase of immunes as age increases, is distinctly against the idea, because there is evidently a natural and inherited tendency toward the development of antitoxin immunity, and, furthermore, no instances of loss of protection have been observed when it has once been demonstrated by the Kellogg test.

LATE APPEARANCE OF REACTION

Sometimes the Schick reaction does not commence to show itself until after the usual time set for the final inspection. On the basis of 4 days for the full development of the reaction, it is the custom to look at the arms for the last time on the 4th day. That this may result in a false negative report is shown by the experience in a Lodi school where 2 children were examined and recorded as negative on the 4th day, and the reactions began to appear late on that same day and were confirmed as positive at a later visit to this school.

DETERIORATED TOXIN

Probably the greatest single obstacle to accuracy in the Schick test is the tremendous instability of diphtheria toxin. Under the influence of light, air, lapse of time, dilution and other less well understood influences, the toxic portion of the substance is steadily going over into toxoid, which is inert so far as the skin test is concerned. Of course, this process is slow in a well "ripened" toxin, but it frequently happens that a sudden drop in strength occurs. The smaller the bulk of the toxin, the more likely are these changes to occur.

In the usual commercial Schick test package, toxin for 50 tests (1 minimal lethal dose) is placed in one bottle and its bulk is so small that it can hardly be perceived at all. Sterile salt solution is furnished to dilute it to the proper strength. The several causes of deterioration already mentioned are favored by this method of packing, which is unavoidable when small amounts are supplied. The deterioration of the toxin is a particularly serious matter for the physician applying only a few tests at a time, for he has no check whatever against false negatives from this cause, and is likely to consider his patients immune, when a fresh and active product would show them susceptible. This must happen frequently, as laboratory tests by the standard lethal test method, of many different packages of different makes, have shown an astonishingly high percentage in inert material to be on the market. These toxins were all right when they left the manufacturers; they passed the Hygienic Laboratory test and were well within the expiration date on the pack-

age; but many did not withstand the deteriorating influences afterward. Fifty-one samples were tested from 14 lots supplied by 6 manufacturers. Twenty-nine samples were shown to be not potent, and only 3 lots had no non-potent samples.

It may be supposed that physicians will be on their guard for poor toxin and will suspect the material if too many negative results are being obtained. Theoretically, this may be so, but not practically. The practitioner will not think of this, and he is told nothing of it by the manufacturer in the literature accompanying the package. On the other hand, those who are doing large numbers of tests might be expected to be on the watch for such trouble, but experience shows that they also frequently overlook it.

In a small town, 380 children were given the Schick test by physicians who were well trained but not experienced in this work. They used toxin put up by one of the most reliable biological houses and were not at all disturbed when they obtained only 25 per cent of positive reactions. This same group of physicians tested 300 children in another school, and we assisted the health officer in reading the reactions. The only positives obtained were in the two lower grades, all of the children above these grades giving negative reactions. Different lots of toxin had been used in the upper and lower grades, so this showed conclusively that the toxin used in the upper grades had deteriorated. On learning that only 25 per cent of positive reactions had been obtained in the other town, we offered to retest them, and when this was done the result was 75 per cent of positives.

FALSE NEGATIVES AFTER IMMUNIZATION

It seems likely that there is some influence tending to make the Schick test unreliable in those recently immunized with toxin-antitoxin. Experience with a group in the California School for the Deaf and Blind, seems to show that false negative reactions may be obtained in those immunized and that the percentage of successful results of this procedure may not be so high as we have believed. The results obtained in this group are disturbing to our confidence in the Schick test, for we obtained an unusual number of false negatives with a toxin which later passed the animal potency test satisfactorily. Incidentally, this shows a disappointing failure to obtain immunity with toxin-antitoxin and shows that there is probably also a tendency for this product to deteriorate suddenly as does toxin.

DISCUSSION

The practice of immunizing children without regard to their immune status has everything in its favor, and it has no disadvantages. In discontinuing the Schick test, we are abandoning a procedure that, even if not subject to the weaknesses already mentioned, is only of academic interest so far as the age group requiring immunization is concerned.

The time to immunize children is between the first and second years, not after they have entered school and have already run the gauntlet of exposure to infection. Our figures show that in California, about

60 per cent of the cases of diphtheria are under 9 years of age, while only about 25 per cent of the immunizations have been in this group. The younger children are practically all susceptible, fully 80 per cent in most localities. Added to this almost universal need of immunization, we have the fact that the toxin-antitoxin in the form now used gives no disturbing reactions in children of this age. There is, therefore, no reason at all why any chance, no matter how small, should be taken of permitting any child to escape immunization by reason of a false belief in its immunity. Out of every large group of children subjected to one test or treatment, there will always be a certain number who never appear for the second. Therefore, if this first interview with the physician is for an injection of toxin-antitoxin instead of for a Schick test, the entire group will have received at least one of the series of immunizing injections.

In small groups where it is desired to know whether or not an individual is immune, and this may apply with some reason to adults who are sometimes subject to rather severe protein reactions, the laboratory test which is previously referred to may be used. This test requires only a small quantity of blood, from $\frac{1}{2}$ to 1 c.c., and it may be taken from a vein with a fine needle or by puncturing the ear lobe as for the Widal test.

As to the testing of immunized children later for the determination of immunity, the experience with the Blind School group previously referred to, shows the futility of using the Schick test for this purpose. It does not matter whether the finding of such a high percentage of actually unprotected persons among those giving negative Schicks following toxin-antitoxin immunization is to be explained as a curious exception to the normal behavior of the Schick reaction due to the toxin-antitoxin, or whether it is an example of the possibility of error in primary Schick tests. In either case it is a failure of the Schick test. The testing for susceptibility after immunization will have to be reserved, therefore, to the comparatively small number of individuals in whom there is more than the usual interest in the outcome of the procedure. These will be tested by guinea pig inoculation according to the method referred to as the only accurate method available. For public health purposes, the control of the disease will be just as effective if the small percentage who do not gain an immunity with one series of toxin-antitoxin injections remain susceptible.

SUMMARY AND CONCLUSIONS

1. Observations are recorded showing that the Schick test is subject to errors in its application, which more than offset the value of the information derived from its use. The causes of the errors are:

- a. Unavoidable error in technique of the injection, possibly also including variation of skin reactivity in different areas.
- b. Unavoidable errors in the interpretation of pseudo reactions.
- c. Deterioration of toxin against which there is no control when a few tests only are being made.
- d. Lack of sufficient experience in the use of the

test which multiplies all possible sources of error.

2. A high percentage of false negative Schick tests has been found in persons following immunization, the information as to their true status having been determined by laboratory test using the Kellogg method.

3. The Schick test is of academic interest only and should be abandoned completely for the following reasons:

- a. It is subject to a sufficient percentage of false negative readings to result in the failure of protection of children who otherwise would have been protected.
- b. Knowledge of the immune status of children is not required, as most of those in the age group most concerned are susceptible, while immunization of the balance is open to no objection.
- c. General immunization of children without further attention to whether or not immunity has been attained, will result in complete public health control of diphtheria.
4. For determining the immune status of individuals and small groups, where this information is specially desired, the laboratory test of the author is convenient and accurate.

REFERENCES

1. Kellogg, W. H. The Intra-cutaneous Guinea Pig Test (Kellogg), etc. *Jour. A. M. A.*, 80:748-750 (Mar. 17), 1923.
2. Park. *Jour. A. M. A.*, 79:1584 (Nov. 4), 1922.

TWELFTH ANNUAL MEETING OF MEDICAL WOMEN'S NATIONAL ASSN.

The twelfth annual meeting of the Medical Women's National Association will take place April 18 and 19, at Dallas, Texas, in conjunction with the American Medical Association meeting.

The headquarters of the M. W. N. A. are the Hotel Baker. Dr. May Agnes Hopkins, Medical Arts Bldg., Dallas, Texas, is the Chairman of the Committee on Arrangements.

Women intending to go to this meeting should promptly make reservations either through Dr. Hopkins or directly at the Baker Hotel, as there will be a big crowd there. Hotel rates are reasonable, a double room with bath averaging \$6.

The terms for railroad transportation should be looked up in the A.M.A. Journal, but in many places where there are large numbers of members of the Medical Women's National Association, special cars for the women may be run.

Medical women passing through New Orleans are especially invited to stop over there and will meet with a cordial welcome from the New Orleans medical women, represented by Dr. Elizabeth Bass, 3513 Prytania St., who is President of the Women Physicians of the Southern Medical Association.

The Texas women, cooperating with the chairman, Dr. Hopkins, are making most attractive arrangements for the meeting. All medical women, whether members of the M.W.N.A. or not, are most cordially invited to participate in this meeting.

Correspondence

THE SUPREME COURT HAS NOT DECIDED THE CARE OF DR. RAMSAY

To the Editor:

Last week when the Supreme Court adjourned, one of our local newspapers carried an announcement that the case brought against your Department by Dr. Blaine L. Ramsay had been decided by the Supreme Court in favor of Dr. Ramsay. We received no announcement from the Supreme Court to this effect, and have been endeavoring to obtain a copy of the opinion. The official list of opinions handed down by the Illinois Supreme Court in the February term has just reached us, and there is no mention whatever of any decision in the case of *Ramsay v. Shelton*, et al. To make certain that this information was correct, we communicated with the attorneys for Dr. Ramsay, and they confirmed the fact that the Supreme Court is still holding this case under advisement.

We note that the newspaper item purported to convey information to the effect that the Supreme Court had decided a controversy between Drs. Humiston and Ramsay. This would indicate to us that the newspaper item was inspired as the only issue which the Supreme Court could decide in the case before them, was whether or not the State Medical Board had jurisdiction to try the charges against Dr. Ramsay.

Very truly yours,

ELMER M. LEESMAN.

NOTE—This matter before the Supreme Court not on the merits of the case. It is an endeavor to avoid completing the trial on its merits by having the law declared unconstitutional on some technicality and thus avoiding action by the department of registration which had heard seventeen witnesses for the state and forty-five for the defense. Realizing the inevitable outcome of trial an injunction was sought to stop the trial. The injunction being dissolved an appeal was taken to the supreme court to prevent the department of registration from passing on his case.

A recent publication in a Chicago evening paper seemed to be a renewal of the lying propaganda which has characterized the defense in this case from the beginning.

BEWARE OF MEDICAL IMPOSTOR

Bloomington, Ill., February 4, 1926.

To the Editor:

For the information of the JOURNAL readers, I wish to report a faker who came to my office, claiming that he might have a piece of steel in his arm near his elbow joint and requested an X-ray picture of same. The picture was taken and the gentlemen presented a check to be cashed, wishing the extra amount in change.

He stated that he was a business man and was seeking a location for dairy products in this city and that he was consulting with real estate men here.

This man is heavy weight, about five feet six inches in height, face is somewhat edematous and especially under the eyes. Age about 55, fairly well dressed.

This information is sent for the reason that he probably is making a tour of the State, faking his living in this way. Authorities here were notified who will be glad if he is apprehended.

It is my understanding from a local bank that they have received word from a Bankers Protective Association that this man has been seeing a number of medical men and faking them in this manner. He gave us the name of Frank Jefferson, claiming to be from Monticello, Illinois, and the check was written on the Champaign National Bank and supposed to have been signed by George Rucker.

Very truly yours,

PAUL E. GREENLEAF.

AN IMPROVED METHOD FOR READING RESULTS OF THE KAHN TEST

Chicago, Ill., Feb. 28, 1926.

To the Editor:

In investigating the reaction in the individual tubes set up for the Kahn Test for Syphilis, it is customary to examine the precipitate by holding the tube nearly horizontally and a little above the level of the eyes, as illustrated in Plate IV, opposite page 144, in Dr. Kahn's book describing his test. This is a somewhat inconvenient position and if many tubes are to be examined, quite fatiguing.

It is also necessary to have a dark background, in order that the finer precipitates may not be missed.

Occasionally, it is also desirable to employ a

slight magnification—as with a “reading glass,” to help judge the precipitates.

As an improvement on this, giving a more natural and convenient position, while at the same time furnishing an ideal background and a variable and sufficient amount of magnification, we have found it desirable, in our laboratories, to examine the tube by means of an ordinary 2-inch “head-mirror,” selecting one with as small a central aperture as possible.

With the window shade pulled down and an electric light suspended over the table at a height of about 50 centimeters and centered about 15 centimeters in front of the observer, the head-mirror is laid on the table, beneath the light, the knob by means of which it is fastened to the clamp on the head band, giving it a convenient slope.

The tube to be examined is then held so that its image can be seen in the mirror.

By holding the tube at various heights above the mirror, its image will be magnified to various degrees.

The effect of a dark background is also obtained because of the manner in which the impinging rays of light are reflected, while, with a little practice, the tube can also be held at the edge of the converging cone of light, brightly illuminating the particles of the precipitate—a useful method of observation, on occasions.

We have obtained the best effect with a bulb of milk-white glass in the socket, though an ordinary bulb will also enable quite satisfactory observations.

By this method, the observations are always made with an illumination of like intensity, with an excellent background, leading to the development of a more concrete standard for comparison. Fine precipitates can more readily be seen by the less experienced workers, while the more natural position of observation will be much appreciated by everyone.

The greater ease with which the examination can be made will also lead to a more accurate observation, with less tendency to hurry the inspection, leading to a greater accuracy of readings and, consequently, improved diagnoses.

CHARLES E. M. FISCHER,

F. R. M. S., M. D.

Original Articles

MASSAGE AND MOVEMENTS IN THE TREATMENT OF FRACTURES*

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NEW YORK, N. Y.

Concerning this important question I have nothing new to advocate; I wish only to re-awaken your consciences and to recall to your attention what you all know but what some of you may have forgotten.

Many neglect entirely these very useful aids; others don't use them enough; some, at least, misuse them. Massage and movements should not replace the old established methods of reduction and immobilization whether by traction, by apparatus or by operation, but they should be made use of wisely and carefully, thoroughly and patiently, as aids to our other treatments. If they are used properly they will shorten the period of convalescence and diminish the resultant disability.

My own interest in this matter has been greatly stimulated by the work of Dr. James B. Mennell and I have learned much from seeing his work at Shepherd's Bush during the War and later at St. Thomas's Hospital, from his books and from discussions with him. His two books: “Massage: Its Principles and Practice,” and “The Treatment of Fractures by Mobilization and Massage,” are well worth studying.

What do you mean by massage and movements? If you mean turning your fracture cases over to a strange masseur with no instructions, I don't wonder that you have been disappointed with your results. Just as improper reduction and splinting can result in pitiful disabilities, so can careless, rough massage and strenuous, forced movement do great damage. The proper use of these methods requires knowledge, skill, patience, judgment and gentleness. If any of these are lacking the method had better not be used at all.

The various forms of massage can be simply described as stroking, compression and percussion. Stroking may be superficial or deep. Until one has tried superficial stroking personally one is very dubious of the claims made for it. Men-

*Read before the Inter-State Post-Graduate Assembly, Milwaukee, Wis., Oct. 27-31, 1924.

nell's description illustrates my own experience. He had gone to Paris to study the methods of Lucas-Championnière, one of the pioneers in this work. He had been urged to try pressure over very recent fractures with the idea of limiting the hemorrhage and the primary swelling. The patient did not like this and was apprehensive, alert, with muscles tense, expecting sudden pain. More to distract his attention than for any other reason, he began to stroke the forearm and arm away from the site of injury. When he stopped, the patient said: "Oh, please go on; it feels so good!"

It is really astounding at times what effect can be obtained in very recent cases. The pain subsides, the muscles relax, the swelling decreases. Again let me emphasize that I am speaking of superficial stroking, so light, as the Frenchman says, "as to resemble a caress." The effect of this may be partly mechanical, due to aid given to the venous and lymphatic return, yet it must have other effects as well, for as Mennell has pointed out, it works about as well whether it be done in centrifugal or centripetal direction, provided it is only done in one direction. At least part of its effect is reflex. But whether it be reflex or mechanical or both, clinically the effect is real.

With the deeper form of stroking, when pressure is brought to bear on the deeper parts more of the effect must be mechanical and this form should only be used in a centripetal direction. In carrying out this form the pressure should be enough to aid the venous return but not enough to impede the arterial flow. Most of the deep stroking, as well as the other forms I shall mention, is carried out by the majority of masseurs with too much force. The only period when even moderate force is to be tolerated is in the later stages or in neglected cases.

By compression we mean kneading, friction and pétrissage. There is no sharp line between these. Let us consider, for example, a baggy, edematous leg: by direct pressure with the thumbs or fingers we can squeeze out some of the fluid—this is kneading; if with the pressure we move around on the deeper parts it is called friction; if we pick up the tissues and squeeze them it is pétrissage. The various forms of percussion massage are not indicated in the handling of fractures. These various forms of massage do

have definite and usually immediate results. Muscular spasm is reduced; pain is reduced; the venous and lymphatic return is aided, edema decreased and the general vaso-motor condition improved.

What do we mean by movements? Theoretically a patient's joints can be moved passively or actively, that is, they can be moved for him or he can move them by himself. Pure passive motion is rather difficult to obtain without an anesthetic, as the patient almost always contribute some muscular effort. The gradations between so-called passive motion or relaxed motion and active motion are gradual. A term—"guided active motion"—has been used to describe the intermediate stage. The patient's muscles can be exercised and re-educated by assisting the operator in performing the movements or by resisting the movement, bringing into play the opposite set of muscles. Mennell calls these "assistive" movements and "resistive" movements. The effect of such movements, whether active or passive, is seen especially on the muscles, tendons and joints, but also on the circulation and so on the process of repair.

Having examined into the character of our tools, let us visualize our problem before we take up their selection and the technique of their use. What is our main object in these cases? To restore as completely and as quickly as possible the function of the injured part. To understand this problem, therefore, we must realize the pathology of the injury itself and the repair of that injury. We are dealing with patients who have had an injury which has resulted in a broken bone. But is the fracture itself the only result of that injury? Rarely. In many of the cases it is the associated lesions which lead to delay and disability and against which we must direct our endeavors.

Let us take a simple example—a Colles' fracture without displacement. The radius is broken across, the periosteum is somewhat torn, there is hemorrhage from the ends of the bone and from the periosteum. There is pain referred to the site of injury and an impairment of function—a decrease in power. The muscles are contracted to a varying degree—spasm. At first there is the swelling from the hemorrhage, localized, perhaps only noticeable to deep palpation. This is soon succeeded by a more extensive swell-

ing due to edema. Movements in the wrist and finger joints are decreased in power and extent, and this limitation increases rather rapidly.

Suppose the injury has been more severe; the inferior radio-ulnar joint and the radio-carpal have their ligaments well stretched, perhaps torn; the fibre-cartilage separating the two may be torn loose at one attachment or in its middle; perhaps the internal lateral ligament tears off the styloid of the ulna.

Take an injury more severe yet: The fragments have been displaced, the fibres of the pronator quadratus or the short thumb extensors lacerated, with resultant hemorrhage and so on to more distant structures, flexor tendons in their sheaths, median or ulnar nerves, interosseus membrane up to actual compounding of the fracture and contamination.

In the more serious injuries the clinical picture is more exaggerated; the slightest movement causes a sharp increase in the pain and in muscular spasm. There is the local pain of the injury, the pain of crepitus when the fragments are moved, the dull ache of tired muscles as well as that of any congested area. The process of repair starts soon after the injury; organization of the blood clot and the formation of new connective tissue is a matter of not many hours, and this is going on not only at the broken bone ends but in the soft parts as well. These are the reasons for immediate reduction—reduction during the fluid stage rather than waiting for solidification to take place. So, too, will the effects of massage be somewhat influenced by the time.

What is the customary treatment of these cases? We all do certain things:

1. We reduce the displacement, if any exists, at the earliest possible moment. Few of us today are guilty of that awful sin of "waiting till the swelling goes down." How the author of that phrase must look down (or up) in horror at the crimes that were committed in his name!

2. After overcoming the displacement—or "setting the fracture" we *rest* the affected part and *protect* it from further injury.

Only too often does treatment cease with these two measures until union is firm enough to withstand ordinary trauma, when the protecting apparatus is removed and the patient told to "go ahead and use it."

Proper reduction is essential to a good result

—and you will notice I said "proper" and not "complete"—but that is another story. Rest is necessary, as is also enough immobilization to avoid recurrence of the deformity. In no way would I minimize the importance of these details of the treatment. But I do strongly urge the additional use of these other most important aids, massage and movements.

What can we expect to gain from their use? First, in the immediate treatment: I would ask you to try the effect of the gentlest superficial stroking in an early case and see if it will not ease the pain, relax the spasm, decrease the early swelling and often simplify the reduction. After reduction, before union is firm, daily use of the same superficial stroking, combined with very gentle movements of the adjacent joints will be of great service if they are carefully carried out. But if done roughly or carelessly, they may do a great deal of harm. Mennell tells the story of a French masseur who had tremendous success and incurred the jealousy of the surgeons of his time. He never would tell the secret of his success until one time his son's life was saved by an operation for peritonitis and when the surgeon who operated asked him what his secret was, he said: "I never hurt my patients." That is the great secret of the proper use of massage and movements: Never hurt the patient. Massage or movements which cause pain have been carried on too strenuously or too long.

As in the immediate stage, the result is a decrease in pain and discomfort, an improvement in circulation and so a hastening of repair. It also prevents much of the stiffness in joints and muscles, lessens the amount of atrophy and shortens the time for return of full power. Somewhere I have read the statement that when a joint is injured there is a marked tropic interference with the muscles acting in that point. This certainly is true in many cases. I was greatly impressed with this in some meniscus cases I have done recently. Formerly, after operating on knees for displaced cartilages I immobilized them in plaster for some time. Recently these cases have started moving their knees the day of or after operation and keeping up motion several times a day in order to maintain the tone of the thigh muscles on which the knee joint depends for its stability. The marked atrophy of these muscles I used to think was due to disuse,

and I have been greatly surprised at the amount of atrophy which has occurred in spite of immediate and daily use—much less than formerly but still marked. Early massage and movements will decrease this atrophy but will not avoid it.

In the early stage deep massage should only be used for obstinate or marked edema which does not respond to the lighter stroking. The compression forms of kneading, etc., also should be sparingly used. During this stage movements must be gently performed, starting with passive and encouraging the patient to take over his share of the work as rapidly as possible. They must not only be carried out with great gentleness, but never allowed to a degree which will endanger the position of the fragments. Where these tend to slip out easily, movements of the adjacent joints are often directly contra-indicated until union is firm. As union does become firm movements should be increased in range and amount as rapidly as possible.

Where these aids have been neglected for some weeks the more strenuous degrees may be necessary to get rid of the dense edema, to stimulate inactive muscles, to break up adhesions in tender sheaths and perhaps in joints, to gently and gradually stretch contracted muscles and ligaments. In each case it will be necessary to visualize as far as possible the exact pathology and not force things too far.

Some Details of Massage:

"I never hurt my patients."

Both patient and operator must be comfortable, that the former may relax his muscles, that the latter may conserve his energies.

The first aim is to get relaxation of the patient. Begin at a distance and gradually approach the site of injury but in the early stages do not quite reach it.

Be gentle.

Avoid pain.

Who shall do it? At first, the doctor himself. In the early stages the doctor himself or some skillful person, personally trained, who shall receive definite and specific instructions in each case. If the doctor himself cannot attend to it or no such trained person is available, it is better for the patient to go without it entirely until union is complete.

The amount must be carefully graded. If the pain has increased or if motions possible de-

crease—it means we have gone too far and a day or two of rest is indicated. Any signs of inflammation are a definite contra-indication.

The same rules hold for motion. They must also be carried out with care as to detail, avoiding overstrain on injured or contracted ligaments or muscles.

In the later stages many devices can be suggested to encourage the patient, marbles, tennis balls, various gymnasium appliances.

No mention has been made of heat or electricity, not that they do not have a real use in the treatment of fractures, but merely because their use was not included in the title of this paper.

Let me repeat again that massage and movements can be made to be of tremendous help in shortening the process of repair, in increasing the amount of functional return and in decreasing the pain and discomfort of the patient. Their proper use requires knowledge and skill, patience and judgment and, most of all, gentleness.

437 W. 59th St.

THE SECRETARIES' CONFERENCE IN 1926*

HAROLD SWANBERG, B.Sc., M.D.
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Before I begin to speak on this topic, "The Secretaries' Conference in 1926," I want it to be distinctly understood that this subject was assigned to me and that I had nothing to do with suggesting it. The only thing I know about it is that when the program was announced I found my name down to talk on this subject. I do not know the reason why I should be picked upon to speak on what is going to happen next year. Maybe the President or Secretary of the Conference felt that I, being a comparatively young man, might be more sure to be alive in 1926 than most secretaries or, perhaps, they thought that this being the last paper on the program of the last day of the meeting, that everybody would be gone by the time I was ready to speak, and therefore, I would not have to give the paper at all.

Frankly, I do not feel competent to give advice on how to conduct future conferences of this

*Read before the Secretaries' Conference of the Illinois State Medical Society at Quincy, May 21, 1925.

nature. This is only the second secretaries' conference I have attended, and I am frank to confess that I have much to learn about the conduct of such affairs.

Personally, I have always been enthusiastic about medical organization work, and have thoroughly enjoyed the work of the secretaryship of my own county medical society. However, that has little to do with the subject of "The Secretaries' Conference in 1926."

In 1926 we are going to have another Secretaries' Conference, but frankly, I do not see how we can make it a great deal better than the one this year. I hope it will be as good, and I will do my bit to help in any way I can.

It seems to me the way the Secretaries' Conference has been run in the past that practically no thought has been given to it except at the annual meeting. To me this method is subject to just criticism. Personally, I feel something should be done to keep the secretaries more alive during the entire year. Just the best manner of accomplishing this I am not prepared to state. Perhaps much good would result by having a monthly bulletin published for the special benefit of secretaries, in which they could discuss their problems and tell of the ways and means they are using to keep their society alive. I am firmly convinced that something should be done to stimulate the secretaries to "carry on."

I feel reasonably sure that a lot of enthusiasm could be aroused and much interest created by having an attendance contest among county societies. This could be conducted in a similar manner to the attendance contest of the Kiwanis and Rotary Clubs. Attendance reflects the activity of a medical society. A church with little or no attendance is "dead" and the same can be said in regard to many other organizations. Something should be done to stimulate better attendance at our county medical society meetings. Membership is not enough, for we must have the members actually attend the meetings if they are to get the maximum good out of their organization. If we could get physicians as eager, or as willing, to attend their county medical society meetings as members of the Kiwanis and Rotary Clubs attend their meetings, much would be accomplished. The country physicians, as a whole, have been very negligent in

regard to their attendance. These physicians used to lay the blame on "bad roads," but now that Illinois leads the United States with the greatest number of miles of hard roads, this excuse no longer holds good. However, I am not convinced that the country physicians of Illinois have increased their attendance at medical society meetings in proportion to the progress that has been made in hard road building in this state.

Perhaps a membership contest would be a good thing. We need more members. Every practicing physician should be a member of the county society where he practices. Many are not members because they have not been invited. A membership contest would, no doubt, bring in quite a number of new members and get many old members back in the fold again.

These are just a few of the thoughts that I can relate that might make the Secretaries' Conference more interesting in 1926. However, all of the above require additional work, but the true county medical society secretary is not afraid to exert himself a little, and do more than his share, for the "good of the cause." The cry of the present day is to give us men who are not only willing to serve, but who do not measure the value of their service too much by gold. Please do not mistake me to be one who believes in Socialism or State medicine. But I do believe we should all be willing to give more of ourselves to worthwhile things. "Service" is the demand of the people today and this must be rendered by the county secretary in a spirit of unselfishness and with no thought of financial remuneration. Such work cannot help but reflect the ultimate good of our profession and do much to advance its cause. County secretaries will profit much by remembering and following the slogan of the Rotary Club — "He profits most who serves best."

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DISCUSSION

Dr. R. R. Ferguson, Chicago: There was one thought going through my mind while Dr. Swanberg was reading his paper which I believe is going to be a very great incentive for better attendance at the county society. I refer to the work of our Lay Education Committee, of which I have been a member since its inception. This work will consist in giving post-grad-

uate work to the county society. We believe we can interest all of our officers in this particular field and that the county medical societies will be able to call on the Lay Education Committee for material perhaps once or twice a year, as we expect to have a large group of men in this particular line of work. We expect to interest the general practitioner throughout Illinois in this movement. The American Medical Association has been watching very carefully the work of our Lay Education Committee and in talking this matter over with the officers of the association, they stated that there is no State in the Union which has made possible such a study and they believe that it is one of the best constructive pieces of work the State Society can do. A post-graduate course will increase not only the attendance but will increase the membership. Of course we do not aim to give a post-graduate course at every meeting of every county society. We expect this to grow year by year and since the House of Delegates has seen fit to supply us with sufficient funds to carry on this most important work, it will become a very much more influential committee of the Illinois State Medical Society than it has ever before. Every state is watching the Illinois State Medical Society's Lay Education Committee at the present time. The American Medical Association is watching our work. The Rockefeller Foundation is watching our work. We want the county society to be a unit in all the work that is accomplished in this state in public health work. We want the county society to direct all health policies in their own districts; in other words, we want to be a central organization working with the State Board of Health and all other lay organizations who are doing work of a public health nature through the County Medical Society.

From hearing Miss Keller talk you know what kind of a person we have chosen to direct our work. Organizations all over the State are asking for speakers on medical topics, and we have furnished hundreds of speakers to lay organizations. We know that the Illinois Tuberculosis Association is working with us. The Lay Education Committee is going to be very influential in spreading the work of the county society, and we feel that every county secretary should get in close touch with this committee. During the coming year we are going to have enough money to do the things we have planned to do but which we have been crippled in doing in the last two months when our funds ran short and when the men who were contributing began to get a little tired. We are going to have sufficient funds to carry on this great work. Perhaps I am a little over-enthusiastic, but it looks to me as one of the best and most enthusiastic pieces of work that the Illinois State Medical Society has ever undertaken and we hope with the help of county secretaries to be able to accomplish our plan. We hope the county secretaries will not neglect the correspondence which comes to them from the Lay Education Committee.

BIOLOGICAL SENSE OF BEAUTY

EUGENE C. PIETTE, M.D.

CHICAGO

All the details of the structure of such a wonderful machine as the human body, every point or prominence of bone, every muscle has its own long and interesting history. Every corner of the human body is intimately connected with a corresponding corner of other living creatures.

It is well understood that each atom of a human body can be understood only in connection with other living forms and yet we would rather consider our mental attempts, our social relations, our ideals and aims of life as something quite independent of biological laws. We are now forced to admit that our body is built up from the same elements as those of other animals, but we would resent it if our desires, ideals and other "sacred" things be studied from a zoological point of view.

But we are animals. Our every-day life, our tastes, style and fashions as well as our laws of morality, our ideas on physical and mental beauty, in other words, all that pushes a man forward, his "ambition" has certainly a solid biological basis; as solid as is love or hunger, which acts with an equal power on man and beast. Dogmatically speaking, "ambition means progress, progress means evolution."

Only a few questions out of these almost unknown subjects will be touched on here. Scientific study of fashions and of morality will be our next subjects. Here we shall try to make a biological analysis of a sense of beauty, taking as a guide the eternal laws of evolution. These laws, pointing out the connections between the man and other living beings, already helped us to understand the material, physical structure of our body, they will be useful by explanation of immaterial, psychological features of *Homo Sapiens*. All the characteristic signs which distinguish a man from other things depend upon the following biological conditions.

The most important moment in the history of the world was the end of the tertiary period when a monkey-like creature arose on his hind legs. This was not quite original: the birds, elephant-shrews, kangaroos used this method of moving long before, but only here this act had enormously important consequences. In the following millennia the upright walk produced a

great and fortunate influence upon the organism of these creatures. The former and hinder extremities became larger, the toes shorter, the mobility of the big toe was diminished. The foot got an arched form, the crest of the shin bone appeared, the fibula became smaller, the thigh bone longer and thicker, the knees came into mutual contact, the pelvis grew much broader.

The trunk became shorter, the number of vertebrae diminished, showing tendency of a further reduction. In the spinal column appeared the lumbar lordosis. The quantity of ribs became smaller, the cross section of the chest lost its heart-like form and assumed an oval one, the muscles of the shoulders developed considerably.

The most important part, the skull, which was getting a solid support, developed a great deal. Its cavity increased in size because of increased amount of nervous substance. Growing brain pushed the nasal cavity forward, thus placing it outside; the external nose appeared. The hands once free took a great part of the work of the jaws, which grew much smaller, the teeth became smaller and their quantity was reduced, the chin not existing before, then appeared. The eyes, pushed forth by the growing brain, became larger, showing a "human" character; both sidelong triangles of the white sclera, hidden in the case of animals, became visible. The once important significance of seeing, hearing and smelling "wards of the body" was much decreased. The ears lost their mobility, became folded close to the skull. On their lower part appeared the lobe, unexisting before, and characteristic of a human being.

Now summarizing the above we see that physical beauty is but simple recapitulation, enumeration of the anatomical signs, typical of *Homo Sapiens*. In other words, "beautiful means human." Prince Charming is straight as an arrow, he possesses a high forehead, prominent "energetic" chin, square shoulders, an elastic step. A movie actress ought to have large eyes, good profile; a bathing beauty should have well developed earmarks of the *Homo* species. The signs specific for a human being are well developed in "beau" people.

A flat nose, prognathic skull, short bowed legs, round shoulders, too long arms, large canine teeth, pointed or bristling ears are signs of ugliness, because they are rather characteristic of monkeys, our cousins. Thus in enjoying beauti-

ful statues or in choosing our partner of life among the most beautiful we do not act freely. We are forced to do it. The laws of evolution force us to fix and accentuate the specific human signs. From this standpoint we can imagine what seems "beautiful" for a certain animal since the sense of beauty gets a comparative-anatomical basis.

Some examples will illustrate the above statements. For instance, the acuity of sight in human beings is progressively decreasing. Why now is it "aristocratic" for a smart lady to squint or to carry an unnecessary lorgnette or why is it good looking to wear horn-rimmed glasses? The arched form of the human foot is often accentuated in a case of a lady by high heels. It may be proved injurious; the ladies know it is "dressy." It is the man alone who has the ear lobe and to emphasize it women wear earrings. It is beautiful, because it attracts attention on a specific human anatomical sign. Hair in a case of men has lost its importance and has consequently atrophied. For "beauty's sake" many people lose daily a quarter of an hour to shave. It is necessary to bare your chin of which man is proud because its presence is allied with the most important armor of man—speech. The red part of lips is visible also only in human beings and has to be shown (lipstick).

And possibly now after conquering the three dimensions a man is demonstrating by shaving and shingle that he is not inclined to wear indefinitely the yoke of time—his latest unconquered enemy. A dream of permanent youth is ever living in his heart and he is still searching the unknown ways of Nature.

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THE VALUE OF THE NURSE IN SCHOOL MEDICAL INSPECTION*

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Although the history of medical inspection of schools includes the history of both the school doctor and the school nurse, many books which have been written on the subject have been written more or less exclusively from the point of

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view of the medical inspector and little has been said of the important place of the trained nurse in the work, so I take this opportunity of presenting to you the value of the nurse in school medical inspection.

It is the general belief that so-called medical inspection of schools, or more properly speaking, health supervision of the school children, is of recent origin, that it is in fact one of the progressive measures of this century, an outcome of the newly aroused social conscience; nevertheless, medical inspection of schools dates back to the palmy days of the Greeks and Romans, when the State trained, educated and developed the child for his place in life. With them, however, the child was first the child of the State; his physical training was more important than his mental training since the State's chief duty was to prepare the man for war.

With the revival of learning, however, especially since the introduction of compulsory education, educational training took the foremost place, almost to the exclusion of physical training; and for many years but little attention was paid to health conditions in the public schools.

Medical supervision meant only exclusion from school for communicable diseases. The child was sent home with an exclusion card, stating the communicable disease in technical terms, and this card was carefully placed behind a picture on the mantel for safety, and the parents, through ignorance or poverty, failed to obtain the necessary treatment—while the child, not knowing anything except that he “must not return to school,” went to the street to play with the other children after school hours, thus rendering futile the first act of exclusion. During this enforced absence from school the child not only lost his precious education, but he developed the vicious habits of the idle, and truancy was the only logical sequence.

The advent of the school nurse brought a radical change in the methods of dealing with diseased children, and as a result of her work, interested and regular school attendance has taken the place of exclusion and truancy.

The school nurse during her visits to the homes points out to parents the dangers of diseases, interests them in getting the children well, gains information regarding home conditions, difficulties and troubles and, if she is the kindly

and diplomatic nurse, she becomes the guide, philosopher and friend of the family, and the bond of friendship between the homes and the school is cemented.

The nurse brings to the home, to the parents and to the children many lessons in hygiene and through her efforts physical defects are remedied before the child is forced to fall out of line to take his place with the defective or the deficient. This home visiting is a very important part of school nursing. The first care is to gain the good will and confidence of the parents, and in doing this the nurse needs to be tactful, courteous and cheerful, slow to take offense and as persistent as an Eastern mendicant.

The compelling motive in her work is the recognized need of the child and if a tirade of abuse should fall on her unlucky head her only weapons are unvarying courtesy, persistency and child love. She will be called upon to adjust many difficulties or find a solution for them before the family life can be happily settled. If she finds a tuberculous child or parent in the home she must know what agency to call on for assistance.

If the house drainage is defective or the premises unsanitary she must get the Board of Health to compel the landlord to remedy conditions. If she finds a father out of work and a boy of school age the support of the family she must set machinery in motion to obtain work for the father and return the boy to school, and if she finds a family destitute she must know what relief society will see to its immediate needs. She must seek the underlying causes for such distressing conditions and find a permanent remedy.

The school nurse works with and for the school department hand in hand with the school physician, co-operating with the local Health Department, local physicians and every agency devoted to civic improvement.

The school nurse assists the medical inspector with individual and class room inspections and physical examinations, vaccinations and other preventive measures. The nurse sends written notices of defects to parents or guardians and visits pupils' homes to confer with parents or guardians in the interest of the child's health.

Written records of such visits and conferences

are attached to the physical examination card and kept on file in the principal's office.

In case of emergency the school nurse renders first aid, bandages wounds, applies antiseptic dressings to cuts, burns, bruises, etc., but does not prescribe medicines.

The nurse is not required to make a diagnosis but to recognize symptoms of disease as a careful mother might do, and refer the case to the family physician for diagnosis and treatment. The nurse recognizes symptoms which might indicate that the child is in the early stages of communicable disease.

The nurse also recognizes chronic forms of skin or eye disease, defective vision, decayed teeth and any unusual condition of the child; after diagnosis has been made by a physician the nurse uses her influence with the parents or guardian to have such defects corrected.

In this manner the child is helped physically and the doctor's work supplemented.

It is generally conceded that the nurse is the first line of defense in the attack upon diseased conditions among school children, therefore, it is the nurse's aim to have class inspection each morning and decide whether there are any symptoms present in any of the children which might denote a condition of ill health. A system of school inspection so conducted will keep the school free from communicable diseases and the daily health lessons given by the nurse will help to make children realize that there is nothing mysterious about the prevention of sickness but that attention to personal hygiene and public sanitation will result in a high standard of individual and community health.

To cure disease and secure correction of defects is a necessary but incidental part of the nurse's work.

Health Education is the fundamental basis of all school health work and the highest objectives of all efforts is to teach children how to be healthy and how to stay healthy. It is just the old story that "prevention is better than cure," that education is better than reformation.

The function of the school board is education, —educating the young child and the adolescent, and that duty was considered well done when the child received the rudiments of an education, —and to hold the school board responsible for more than the inculcation of the "Three R's"

was uprooting all deep-seated prejudices. Any attempt at a broader education was denounced as a "*fad*." So health education knocked long and loud at the old school board before it was heard, and now "*health*," the best asset of boy or girl, is making a heroic struggle against the protests of the extreme conservatives and demanding its place on the school curriculum. There have been in the schools courses of study in hygiene but these were not definitely related in the public mind to health. At last it has been considered wise to make these courses practical, to warn the child of dangers, to teach it how to live so that health may be maintained and disease prevented, to guide and direct parents in the care of the child and to enable the child to get a square deal and a chance to grow up in health and strength. It is a pathetic sight and a sad commentary on human wisdom to see health education just able to make a feeble knock at the door of the present day school board. Yet it is so, and the school nurse, the guardian at the school door, the protector of the child's health, the health teacher, is decried because of the cost.

It is true that the school nurse means an increased expenditure because only the best trained women can do this work properly; but to make expenditure for education effective there must be children physically adapted to take advantage of the education offered, and the school nurse strengthens the hands of the teacher by: 1. the detection and correction of physical defects which prevent the child from acquiring a full education with the least sacrifice to his physical welfare. 2. By the detection of communicable diseases, thereby protecting the child and the community. 3. By insuring the best possible hygienic surroundings for the child while he is in school; and 4. By teaching the practice of hygiene and healthful living in school and at home.

Out of the 102 counties in Illinois, 80 have some form of school health supervision and out of a possible 400 public health nurses in Illinois, 250 nurses are engaged entirely in school nursing; 127 include school nursing in their public health program.

Eighty boards of education contribute to the upkeep of school nurses, while Red Cross Chapters, Tuberculous Associations, Boards of Super-

visors and City Councils, contribute largely to the upkeep of a *general* public health nurses service.

The qualifications required of the ideal school nurse are a good preliminary education, coupled with a complete and thorough technical training, preferably in a children's hospital. These are necessary foundations for the superstructure of the additional training required.

A course in school nursing should be taken by nurses desiring to fit themselves for health teaching.

School nursing requires gentleness yet firmness, tact, perseverance and resourcefulness, but above all else, the school nurse must have a deep human love for children, a charity and kindness that embraces all children in its sympathy, the dull and the bright, the dirty and the clean, the sulky and the cheerful, the repulsive and the attractive, the insolent and the obedient, the quarrelsome and the loving.

Her disposition should be cheerful but earnest with a sincerity and good sense not easily disgusted by crudeness. An infinite amount of patience, a supremely optimistic spirit, and an ever-present vision of the long looked for utopia of child care.

A knowledge of a foreign language, especially Italian, Polish or German, greatly aids in obtaining results among foreigners. Conversing in their native tongue has a distinct advantage over the use of an interpreter.

One can hardly predict the future development of school nursing but if the occupation makes as rapid strides as it has in the last four or five years, it is safe to say that the school nurse of the future will be known as (A) a director of school hygiene, in charge of all health conditions of the school, ventilation, heating, lighting, etc.; as (B) teacher of hygiene and physiology and as (C) general health advisor of the whole school population. At the present time she has gone further than what were considered her duties and opened a path to the development of an ideal system of betterment of public health in our cities. The school nurse of the future will be the municipal nurse whose duties will not only include health protection of school children, but also of infants, by instructing mothers in infant hygiene and feeding.

thereby reducing a great and unnecessary infant mortality.

By improving housing and living conditions the nurse will reduce the mortality from tuberculosis, pneumonia and other diseases. She will be the supervisor of health and sanitation in the factory as well as a teacher of hygiene in school and home. She will be the connecting link between the destitute family and the organizations dispensing aid. In fact the school nurse of the future will be the guardian of our public health and each graduate of a public school system will be a potential health officer for his family.

In conclusion, I wish to reiterate that medical inspection *without* nurses is largely one of records and statistics, while *with* nurses it means action taken and results obtained.

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DISCUSSION

Dr. A. A. Crooks, Peoria, Ill.: As one who is devoting all his time to public school work, I want to assure each and every one present that I feel you have listened to a very remarkable paper—a paper that has a great deal of vision attached. To those of us who are connected with school work, it gives a different slant on public health activities. As a matter of fact we have charge of these children in the formative period. If you go away with only one thought, let that be that in future each school child as they go out of our grade schools becomes a potential health officer in his own home. If we fail to get that message across, I feel we have failed in our duty. As I listened to Mrs. Reiseman's paper I was convinced that she has touched upon many salient points, and it is going to be hard for me to add anything more, and I shall not try. Without the aid of the school nurse—and I want to preface that remark by saying that I have no place in my department for any nurse who has not had considerable public health work—I had one such nurse, a very splendid character, a very fine private duty nurse, but she did not have public health experience, and after four or five months in our work, her service to us was not anywhere near her salary. We will, in future, I believe, exact a good deal of special training. About the hygienic part. I have something like 13,000 children whom I am expected to keep well, keep them in school and in regular attendance. Mrs. Reiseman speaks about this service being a very important thing. I believe it is the most important thing we have to do in school work, as commendable as the correction of physical defects happens to be. Dr. Sloan mentioned one very valuable thing—the survey of the goiter question. As valuable as that is, and the care of all physical defects, the majority of which are easily remedied, yet I believe after all that this is not the biggest factor in our connection with the public in school work. I

believe it is the control of communicable diseases. After all, we have to put the dollar mark on all our efforts, and the board of education is always being razzed by the public for the expenses they incur. So we have commenced to enumerate and know what each child in our particular community is costing us per school year—\$85.00 is the figure—practically 50c a day, whether the child comes or whether he is absent. The question of the sociological side is very well expressed by this paper. It is by far a bigger side than the majority of us know. Very often the child is not in school because of some charity necessity. Therefore the department of hygiene must of necessity do some truancy work. Luckily, we try to see every absentee after two days absence, and the child must be absent because of illness before we call at the home, because in Peoria, as in other places, we are under-personneled. But the majority of absenteeism is due to some lack of clothing or food. It becomes a very, very big thing, and it leads to the point where I am commencing to believe that there is a definite field for school nursing and a definite field for sociological workers, and I would not combine the two. I would not make any school nurse a social worker. I believe this is one of the things the future will correct. As to the correction of physical defects, Mrs. Reiseman touches on that very well. To the majority of physicians in the State of Illinois, so-called State Medicine is just around the corner. The majority of physicians, I find, have some antipathy to the school nurse, fearful that the public health nurse will usurp some of their prerogatives. With us we are avoiding that particular thing. Our school nurses are not making any diagnoses whatsoever. The nearest we come to a diagnosis from the nurse's point of view is attaching to the diagnosis or prefacing it by the word "suspect." I will not diagnose in my department and I personally stay away from it as much as I can, because I feel always that is the prerogative of the physician. The "feeble knock" Mrs. Reiseman mentioned at the door—I have not been so long engaged in school service that I have become caloused to these things, but there is a very human side to this school work that I feel is not in the province of the average public school nurse. In Peoria we are finding that the timid knock is a thing of the past very largely. The school nurse is welcomed with open arms, because she has been the bridge between the family and the physician, and has brought both sides to a plane of better understanding. Of that I am sure. The school nurse is bringing to the physician more cases of communicable diseases than he has ever had, more physical defects that should be corrected than he has ever had. The medical profession in Peoria have not for some time felt any antipathy toward the school nurse, and I think we can now carry on our work as we will. I would like to see the promotion of a closer understanding between the general public—between the medical profession particularly—and the nurses. I do not feel that this bridge has been entirely crossed. In other words, I do not feel that Public Health Service has been entirely sold—not entirely so.

Dr. I. D. Rawlings, Springfield: I am not sure but

what Mrs. Reiseman has made the point I wish to emphasize—while the nurse is a wonderful asset in controlling contagious diseases and getting school children vaccinated, etc., the real permanent result of her work is calling attention to physical defects, and getting these corrected. For a number of years I was connected with school work in the city of Chicago, and over a period of three years we made a study of our figures, and found that in 406,000 pupils with defects, there were 204,000 males and 202,000 females that had defects, and these figures were a pretty good average. If we take the experiences in our draft when one-third of the young men had defects, many of which could have been corrected if they had been attended to in time, and when we compare these figures, and realize that approximately as many young women are also defective, and when we realize that the children of to-day are the adults of tomorrow, we can understand how important it is that this work be done. There is no service more valuable to health work than that of the public health nurse, where she functions efficiently and keeps her place. That is true also in infant mortality. Of course, if she oversteps her bounds she should be fired. It is not her function to make diagnoses.

Dr. R. C. Ellis, Moline: In looking back over my experience in regard to the relation of the public school nurse to the public in her work, I believe there are two guiding principles. First, she should be engaged to help control contagion in the school. Second, her work should be distinctly educational. I believe she should carry into the family the educational aspect of her work bridging the gap between the school system and the family. The family cannot be brought to school. The child can be educated in regard to hygiene in school, but the family must be gone to. The nurse, however, can introduce herself into the family circle as the agent of the Board of Education, delivering her advice in that spirit, expecting as its result the raising of the standards of hygiene in the family and the direct improvement of the child if her advice is taken. I think if she will outline her work along these lines there will be no antipathy. She is simply bringing a message, a service, the teaching of hygiene, which the family perhaps has not had the privilege of hearing before.

Mrs. Madge Reiseman, Chicago (Closing): I am grateful to the Doctors who discussed my paper, and I believe there are a few points in it which need elucidation, judging from the various discussions.

Dr. Crooks spoke of social service work as distinct from the school nurse's work. He said a school nurse should not assume the duties of a social service worker. I agree with him. I believe there is a definite piece of work for the social service worker, distinct from the nursing work, but the nurse, the social service worker and every agency devoted to civic improvement must work in cooperation and harmony.

Since in our social structure the family unit must be maintained, the public health nurse must view the family as a whole and, though her visit to the home is primarily in the interest of the school child, she may

find other matters needing attention in the home, which have a direct bearing on the health of the family, and secure the necessary assistance and adjustment through the proper organization; therefore social service training is a necessary part of the public health nurse's training.

Occasionally there is some antagonism on the part of physicians towards the public health nurse's work, but I believe this antagonistic feeling is due to lack of understanding of the nurse's work and I find that when the nurse discusses her work with the physician and explains her program to him, he is willing to cooperate with her.

It is the school nurse's duty to work in cooperation with school authorities, State and local health departments, private physicians and other interested agencies. Unfriendly feelings arise when the nurse's work is not understood.

The nurse does not diagnose either physical defects or contagion, though she may recognize symptoms of communicable disease and physical defects. She simply suspects and recommends a visit to the family physician for treatment or advice, reporting her suspicion to the local health officer.

Dr. Crooks suggests the substitution of a "timid" knock at the door of the school board for the "feeble" knock mentioned in my paper. Perhaps it is really a "timid" knock, for it is sometimes very difficult to arouse interest in this school work or obtain the recognition and cooperation it deserves.

A city the size of Quincy with its school population should have a school nurse, yet continuous knocks on the door of the school board have elicited no response and school nursing is not a part of the school system in this community.

I told you that 80 of the 102 counties in this State have some form of public health nursing service. Some of these nurses are engaged in a generalized public health nursing service which includes school nursing. In a number of cities boards of education contribute to the support of a nurse for the school system, the nurse becomes a teacher of hygiene in the school and in the homes. She secures correction of physical defects, and eliminates contagion by careful supervision of the health of children; in other words, the nurse places a premium on school attendance.

Dr. Rawlings stated that a doctor and a couple of nurses in a school could do more to eliminate absence than a truant officer or a policeman. The nurse, in her visits to the home, advises parents as to the proper training and care of their children and by arousing the child's interest in his own health, defects are corrected and contagion decreased, resulting in regular attendance and interest in school work.

Dr. Rawlings stressed the necessity for defects corrected, since they retard progress in the school and result in serious damage to the individual's health.

I stated in my paper that some school boards object to employing a nurse because of the additional cost. At the same time large sums of money are spent by school boards on the education of "Repeaters" who

are behind in their grades through some defects which can be corrected.

Children should be physically fit to receive the education which is to make them useful members of society and the school nurse uses her efforts to put children in a sound physical condition and keep them in that healthy condition.

Dr. Ellis referred to the home visits made by the nurse, and the opportunity afforded during those visits to teach parents the ways of healthful living. My paper stated that the nurse brings lessons in hygiene to the home; if there are unsanitary conditions she reports them to the board of health, who will ask the landlord to remedy conditions. If there is sickness she advises calling the family physician and reports suspect contagion to the health officer. If there is need for assistance from a charitable organization the nurse gets in touch with the proper parties.

In closing, I believe that with the employment of nurses in schools it is possible to teach children to take a keen interest in their health and they will learn that there is nothing mysterious in keeping well, in preventing sickness, more than obeying health rules and forming health habits which will result in individual and community health.

MEINICKE TEST FOR SYPHILIS BY PRECIPITATION—THE TECHNIQUE FOR MIXING MATERIALS IN THE TEST

W. T. MEFFORD, M.D.,
CHICAGO

The re-agents required are the extract and (3%) three per cent salt solution. The test tubes should be approximately three inches long and (5 to 7) five to seven inches in diameter, washed thoroughly and dried.

Use a rack with two rows of holes; number tubes 1, 2, 3, etc.

Keep a record of each patient's serum put in designated tube; viz., John Smith, tube one; John James, tube two, etc.

If convenient, one should have a negative and positive serum for controls. This is not absolutely necessary, especially for those having laboratory experience.

Obtain the serum as for the Wassermann test.

The serum does not have to be inactivated, but if inactivated it does not affect its working in the test.

Put 0.2 of C.C. of each patient's serum into their proper numbered tubes. The next step is to prepare the extract and salt solution for mixing. Measure one C.C. of extract into a 15 C.C. centrifuge, or test tube, and ten C.C. of three per

cent salt solution into another 15 C.C. centrifuge or test tube. Place these two tubes in a water bath, at 40 to 45 degrees centigrade, for not less than ten, or more than twelve minutes. Remove them from bath at end of specified time and mix immediately by pouring the salt solution on the extract, back and forth, not more than two times; add 1 C.C. of this mixture while warm to each tube containing the serum to be tested. Shake each tube moderately to insure mixing of material, after which put test in dark place, or box, to exclude all light; and at room temperature, 20 to 25 degrees centigrade.

At end of an hour an experienced laboratory technician can interpret the result. At this time the strong positive serum will show more opalescent, or be more opaque than the negative. To distinguish more readily, hold the test before the window, but not too close, two or three feet back, and observe the test by having different degrees of light show on the test, as well as different shades of background. I find a good scheme is to stretch a black cord, horizontally, across the window, and observe the cord by looking through the center or middle of each tube. One cannot see the cord through the strong positive reaction, but can see the cord through the negative. Move the end of the rack up and down to see play of cord.

Return the test to dark place and leave for 10 or 15 hours for a second reading or interpretation. At this time a precipitate will have settled to bottom of tubes, giving a strong positive reaction, and in a four plus reaction the supernatant fluid will look as clear as water; in a three plus, not quite so clear; and in a two plus, not so clear as the three plus. The two plus will show approximately, as at end of first reading. The negative tube will show about the same as when test first mixed.

I have kept test for as long a time as three or four days, with no change observable after the second reading.

As it is necessary to add the extract and salt solution mixture while warm, if one has more than seven or eight serums to test, it will save time to start a second mixture of extract and salt solution, five minutes after putting the first tubes in bath, and so on with a third or fourth extract and salt solution for mixing. It only

takes a few minutes to add these dilutions, and they must be added while warm.

The amount of extract, 1 C. C. and salt solution, 10 C. C. makes 11 C. C. of mixture, and allowing some for loss, this amount of mixture will be enough for ten tubes. Do not make large amount of the mixture or dilution of extract for fear of some deterioration taking place. Salt to make the three per cent. solution should be C. P. I use Parke-Davis salt tablets. They are 16 $\frac{2}{5}$ grain each and three of these tablets to 3 $\frac{1}{2}$ ounces of fresh distilled water make approximately three per cent. salt solution.

I have compared this test with the Wassermann, in several hundred tests, and find that it parallels the Wassermann, and is in some respects superior.

The test is readily or easy to interpret and by far the superior of any precipitation test I have observed.

That the test does not require complement, Amboceptor human or sheep blood, should commend it to doctors.

2159 Madison St.

THE DRUGS WE USE*

WM R. MANGUM, M.D.

BRIDGEPORT, ILL.

It is not my purpose to give you a book review of all the drugs we use, as practicing physicians, in our efforts to relieve and cure our patients of the various diseases, nor to outline their therapeutic actions and uses. But rather to point out to you the direction in which the profession is drifting today.

You will please pardon me for referring to my father who was one of the oldtime, beloved, family physicians of whom you occasionally read but whom you rarely meet in this day of specialization.

My father was my preceptor. He studied medicine in an office soon after the Civil War and took the State Board examination during the first series of examinations after the Illinois State Medical Board was organized. He was a great reader of medical books. He practiced in the country and made trips on horseback for miles around. His practice was in a farming community and was more extensive than mine

*Read before The Lawrence County Medical Society, March 12, 1924, at Lawrenceville, Ill.

has ever been. When I began to study medicine, I went into his office and soon became familiar with all the drugs that he used.

It is my recollection that the whole lot of drugs that he used would never have amounted to more than fifty dollars at any one time.

Quinine, calomel, Dover's powders, aloes, jalap, aconite, lobelia, ipecac, opium and a few others were all he carried. What anybody knew about those drugs, their actions and uses, he knew.

He mixed his own powders and poured out the number of drops he wanted his patient to take. About the time of my second year in medical school an aggressive drug drummer heard of this old country doctor and drove out the six miles to see him and sell him a medicine case filled with tablets. The sale was made including a generous supply with which to refill the small hand case.

My father used the medicines occasionally but he never used the case, preferring the more commodious saddlebags he had used so long.

I presume that with those tablets and granules, he felt a good deal like David felt when Saul's armor was put upon him, in preparation for his great fight with Goliath. At any rate he continued to use his old trusties, sling and rocks, powders and drops.

I look back now and can see that typhoid fever, malaria, pneumonia, whooping cough, measles, scarlet fever and many other diseases yielded just as readily to his treatment as they do to the remedies prescribed today.

I have had at times a thousand dollars or more invested in drugs in my office; elegant pharmaceuticals, special formulas, elixirs, fluid extracts, tablets, pills, powders, plasters, salves, alkaloidals, specific tinctures, normal tinctures, patent and proprietary preparations, glandular products, bacterins, intravenous medicaments, natural mineral waters—everything, in fact.

Somehow or other, I have never had the confidence in drugs that he had.

Now when I step into a doctor's drug room, I feel like I can pretty nearly tell the amount of confidence he has in drugs—by the number and amount of articles he has on his shelves, the amount of confidence being in inverse proportion to the number of drugs.

The U. S. Pharmacopea contains thousands of

drugs and remedies and yet half the preparations we use are not in it.

Beside the numerous drugs in use there are the many accessories or adjuncts to treatment such as psychotherapy, physiotherapy and what not.

It really makes my head swim to think of the magnitude of the practice of medicine today. Is there any wonder that relatively more doctors have committed suicide in the last few years than any other professionals or tradesmen?

I have taken the trouble to look into a few doctors' drug rooms (with their permission), and I hope you will bear with me while I name a few of the preparations carried in stock by these representative doctors and dispensed to their patients.

Livo-Tone, Iodized Mineral Oil, Sal Bromic Compound, Calzinol, Milk of magnesia, Syrup of trifolium compound, Pepsolac "B," Kinetic cordial, Elixir emmenagogue, Gepsol, Ferritone, Creo-Terpin compound, Syrup of cocillana compound, Elixir I. Q. & S., Hypophosphates compound, Liquid cholera infantum, Alka-sal, Phen-aloin compound, Creodide, Heart tonic-DaCosta, Heart tonic, R. B. Klim, S.M.A., Manganese and iron compound, Zonite, Unguentum diachylon, Dionol, Anedemin, Balm pertussis, Manica and salicylates, Pluto water, Apocynum, Fl. Ext., Spray solution No. 6, Vitamines, Apiol compound, Tribasic citrocarbonates, Alkaline and antiseptic, Digestive aromatic, Vaginal astringent and antiseptic, Bitter tonic, Sanmetto, Rheumalgine, Neo-silvol, Emolientine, Eczema lotion, Bismuth subgallate compound, Malatonic, Anodyne, infant, Antiseptic and nutritive oil, Anisal, Ichthoidol, Special gargle, Loingia, Glycopepsin, Influenza and cold, Incontinence syrup, Flatulence, Avodine, Metagen, Eupinol compound, Sore throat tablets, Tonsilitis tablets, Hepatic compound, Dorsey's mixture, Bis-sal mixture, Bukaform, Wine gam gaduol, Tanophene, Alkarhein, Pascarnata, Pentabromides, Ecthisia, Genitone.

Gentlemen, I could give you hundreds of other names just as descriptive and educational as these, but I know you are ready to pardon me for not doing so at this time.

This list contains just a few of the names given to special formulas and combinations put out by the enterprising manufacturing chemists

and peddled to the doctors of every state by the well-trained and highly paid specialty and detail men whom we pay to visit us every thirty or sixty days. I am not knocking the drug drummers. Many of them are fine gentlemen and I often learn something of value from them. Nor am I condemning the commercial drug manufacturers for their tireless efforts to find new, better and more elegant pharmaceuticals. I do believe, however, that the drug business needs Hooverizing. I do not mean censured, but standardized, like the U. S. Pharmacopeia attempts to do.

I fear that great and serious damage is being done to us, the general practitioners, and to the medical profession at large by the use of such loosely constructed names. This damage will be passed on to our patients together with the higher cost of all these specialties.

I am not going to ask for a show of hands, but I do want to ask you doctors (myself included) how many know the drug constituent and dosage of the drugs contained in these mixtures that you hurriedly issue to patients who enter your office seeking cure or relief from their physical and mental ills?

When the next patient has left your office with a bottle of medicine and you have set down the amount to your cash or credit account, go into your drug room, take down that gallon bottle from which you poured that specialty and read the label thereon. If you are not surprised or maybe shocked at your having given medicines without duly considering them, I will have missed my guess.

Now what do you think? Is this commercial age of medicine good either for the doctor or his patient?

The doctor and his patient are not all who are hurt, however, as you will see if you go into any so-called drug store (variety store would be more nearly descriptive) and look back in the least used portion of the store and you will find Fluid extracts and Tinctures from the best manufactures. Many of those quarter pound bottles have been there five, ten or twenty years, and the stoppers have never been removed.

The prescription pharmacist is gone. He has given way to the soda fountain clerk who mixes the coca-colas and hands out the castoria—the kind the babies cry for.

If my voice and pen were able I would like

to draw this matter to the attention of every doctor in the country.

I believe this is a much more serious question to the medical profession than whether in three months we shall be allowed to write one hundred or one thousand prescriptions for our liquor loving patients who generally are able to come to the office and bring no symptoms except a slight chronic dryness of the throat.

It is my humble belief that if the physicians who constitute the regular medical profession will study the actions and uses of the drugs they prescribe and dispense, that all the different varieties of "paths" desiring a short cut to the practice of the Healing Art will become less popular with the public, for we will cure more of our patients.

DISEASES SIMULATING PULMONARY TUBERCULOSIS*

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Since the beginning of the anti-tuberculosis campaign about twenty-five years ago, two thoughts have dominated the medical profession in the promotion of this crusade. The first was to diagnose tuberculosis as early as possible; the second was to suspect it in every chronic pulmonary disease. Although the results have been very satisfactory by reducing the mortality of this disease over 50%, during this period the over-enthusiasm displayed, especially by those actively interested in this disease, has caused many non-tuberculous conditions to be diagnosed as tuberculosis. Another cause for this is that the symptoms of many other diseases simulate those of tuberculosis. Practically every variety of medical and surgical diseases are sent to the Cook County Hospital and the various tuberculosis dispensaries diagnosed as tuberculosis. Practically all tuberculosis sanitariums have cases of non-tuberculous disease.

The following are among the more common conditions frequently diagnosed as tuberculosis on account of the similarity either of their clinical history or of their pulmonary physical signs:

*Paper read before Illinois State Medical Society at Quincy, Illinois, May 21, 1925.

Common diseases having symptoms simulating tuberculosis are:

1. **Hyperthyroidism:** This condition characterized by general malaise, loss in weight, loss in strength, anorexia, slight temperature, tachycardia, tremor, exophthalmos and elevated basal metabolic rate. These symptoms are often associated with some cough so frequently simulating those of tuberculosis that, unless one bears this condition in mind, frequent errors are inevitable. The absence of physical signs, the constant tachycardia and the elevated basal metabolic rate should serve to differentiate the two.

2. **Mitral stenosis:** Frequently associated with cough, dyspnea and hemoptysis, can be differentiated from tuberculosis by the characteristic physical signs of enlarged heart, presystolic murmur, and frequent auricular fibrillations. It should also be borne in mind that pulmonary tuberculosis is exceedingly rare in the presence of mitral disease.

3. **Subacute infective endocarditis:** This disease is more common than is usually supposed, and is therefore frequently overlooked. It is characterized by normal or slightly elevated temperature, enlarged spleen, clubbed fingers, painful nodules on toes or finger tips, petechiae, and finding of streptococcus viridans in blood culture. When, in addition to the above characteristic findings there is also some cough, the tendency to diagnose tuberculosis is quite marked.

Common diseases having pulmonary findings similar to tuberculosis are:

1. **Basal pulmonary lesions following influenza infection:** In these conditions physical examination shows dullness, bronchial breathing and rales in lower portions of lung, while apices are clear. The negative apex should serve to differentiate these diseases from tuberculosis.

2. **Chronic bronchitis and asthma:** Here we have a history of chronic cough and paroxysmal attacks of expiratory dyspnea. On chest examination there are no localized pulmonary lesions, but evidence of emphysema and diffuse bronchitis characterized by enlarged, hyper-resonant chest and many diffuse sonorous rales most marked at the bases.

3. **Non-tuberculous chronic infections of lungs:**

(a) Syphilis is diagnosed by positive history,

positive Wassermann and favorable response to antiluetic treatment.

(b) Actinomycosis is diagnosed by exposure to cattle and finding of Ray fungus in sputum.

(c) Blastomycosis is diagnosed by associated skin lesions and the finding of yeast fungus in fresh sputum.

(d) Streptothricosis is recognized by finding of various forms of streptothrix in sputum which is negative to tubercle bacilli.

4. **Neoplasm of the lung:**

(a) Benign or malignant disease of the lung is diagnosed by physical signs of flatness, suppressed breath sounds and absence of signs of moisture, which are usually present in tuberculosis. The absence of temperature, the presence of the characteristic cachexia of malignancy and the finding of enlarged hard cervical or axillary glands.

5. **Foreign bodies of the lung** are of great diagnostic importance: This condition is more frequent than is usually recognized and should more commonly be borne in mind. It is diagnosed by the history and x-ray findings of either foreign body or zone of localized emphysema, which is very suggestive. Chevalier Jackson and those engaged in bronchoscopic work have repeatedly called attention to the importance of this condition and the ease with which it can be treated by bronchoscopy.

6. **Pulmonary abscess, infarct and gangrene:** These are diagnosed by characteristic odor, purulent sputum and finding of area of dullness, bronchial breathing and rales at base. The history of preceding tonsillectomy, pneumonia, or foreign body aspiration is of value. Roentgenologic examination is quite conclusive in these cases.

7. **Upper respiratory infection:** These conditions are especially common in children with tonsil, adenoid and sinus disease. There is a low grade temperature, general malaise and on physical examination frequently findings of apical collapse. This, associated with apical dullness and fine rales, is the cause of frequent error in diagnosis.

8. **Non-tuberculous pathology in apex:** Collapse or induration of apex, giving rise to dullness on percussion is frequently found in people during routine examination. This may be due to the previously described condition or to an

old healed tuberculous lesion, which is so frequent in the light of our present conception of the pathogenesis of tuberculous infection. Tuberculous disease should not be diagnosed in these conditions unless there are other positive evidences of tuberculosis.

Negative sputum by repeated examinations is an important feature of all the above conditions.
Prevention of Errors:

1. Careful analysis of symptoms and findings should be made without prejudice. Most tuberculosis workers and institutions regard a case as tuberculosis until proven otherwise.

2. Those treating tuberculosis should have a broader knowledge of general medicine and be familiar with diseases other than tuberculosis, which give rise to similar symptoms and findings.

3. Physical signs of tuberculosis: Begin almost always in the apex.

4. Sputum analysis by Antiformin method of 24-hour specimen should be done frequently. Repeated examination in marked cases with negative sputum rules out tuberculosis.

5. Careful interpretation of results of tuberculin test. Positive tuberculin test without clinical evidence indicates only tuberculous infection, but not tuberculous disease.

6. Careful interpretation of results of x-ray examination. X-ray findings without clinical signs should never justify a diagnosis of active pulmonary tuberculosis.

7. Establish group of suspected tuberculosis cases and keep them under constant observation without stigmatizing them as tuberculosis until sputum is positive or other positive evidences appear.

Summary and Conclusions: Although it is true that tuberculosis is the most common, chronic pulmonary disease, many other diseases simulate pulmonary tuberculosis in their symptomatology and physical signs. Especially when the sputum is repeatedly negative, other conditions must be considered in the differential diagnosis. Of these, the most common are: Hyperthyroidism, mitral stenosis, subacute infective endocarditis, basal pulmonary lesions following influenza, chronic bronchitis, asthma, emphysema, non-tuberculous chronic granulomata, neoplasma, foreign bodies, pulmonary abscess, infarct, gangrene, upper respiratory infections, and

non-tuberculous apical infiltrations. Greater care should, therefore, be exercised in the diagnosis of tuberculosis, as errors in diagnosing non-tuberculous cases will not only unjustly stigmatize these cases as tuberculous, but also deny them proper treatment for their disease. It will also relieve them from unnecessary tuberculosis restrictions of the Department of Health, which are usually severe.

SURGICAL INTERVENTION IN MEDICAL KIDNEY DISEASES*

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CHICAGO

After Edebohls introduced the decapsulation into the therapy of medical kidney diseases this method was taken up with considerable enthusiasm. This was followed by a period of severe reaction so that for a time this procedure was practically placed in the discard.

The reasons for this abandonment were twofold. The indiscriminate application of this method to unsuitable cases furnished poor results and subsequent disappointment and assertions meant to theoretically support this intervention turned out to be unwarranted.

It was claimed that the removal of the fibrous capsule produces permanent decompression and that during the process of healing ample collateral circulation is established; both these statements turned out to be erroneous.

In recent years the development of a more thorough knowledge of the pathologic physiology of renal diseases caused a resumption of this method, and it occupies now a well-defined position in our therapeutic armamentarium employed in the treatment of medical kidney diseases. It is now pretty well understood, or at least, ought to be understood, that in medical kidney diseases we have to distinguish between the preliminary involvement of the vascular renal system, the nephritis, and the involvement of the tubular system, the nephrosis. This distinction is based on the pathologic findings. It is true that a persistent nephritis finally will lead to the development of a nephrosis on account of the interference with the nutrition of the tubular system, but it is important for the choice of therapy to determine in which part of

*Read before the joint meeting of the Chicago Urological Society and Chicago Medical Society, March 13, 1925.

the renal parenchyma the trouble has started. Nephritis, as a rule, follows a focal infection somewhere in the body; the urine contains blood, a moderate amount of albumin, a serious lipase and no lipoids. The blood pressure always is increased, general hyposthenuria prevails and the indican and nonprotein nitrogen in the blood is increased and general toxemia may cause eclamptiform seizures. Nephrosis shows plenty of albumin but no blood in the urine; there is an abundance of casts and doubly refracting lipoids and a renal lipase are found. Nephrosis per se does not produce hypertonicity, the hyposthenuria concerns only the excretion of the water and the concentrating power of the kidney may be well preserved.

If one considers that the pathology of nephritis is mainly based on ischemia, a disturbance of the proper circulation in the glomeruli, it is easily understood how therapeutic measures which relieve the congestion and facilitate restoration to the normal may exert a favorable influence on this renal disorder. The glomeruli attend to the elimination of water; it is a fundamental medical rule to put at rest or relieve as much as possible a diseased bodily complex, and attempts are made to produce this unburdening of the renal vascular system by reducing the intake of fluid. By desiccating the patient as much as possible curative effects will be produced in a great many instances. If this fails, one must resort to surgical intervention to provide conditions favorable for the restoration of proper renal circulation. Two problems may confront the operator: if perinephritis coexists, due to the same noxae that attacked the cortical renal complex, the renal body must be freed from these embracing adhesions, and if the pedicle of the kidney is interfered with by compressing strands, they must also be removed in order to prevent further stasis within the kidney. The second issue will be to remove the fibrous capsule of the kidney in order to bring about a thorough decompression.

That the kidney in cases of acute nephritis is under increased tension, and that the decapsulation in such cases furnishes decompression, is attested to by the clinical observation that in these cases the renal cortex is seen to protrude through a small incision, splitting a part of the capsule only. As to the therapeutic effect of

the decapsulation, it is known that this procedure is not followed by the establishment of collateral circulation and that the fibrous capsule reforms in a short time. Many attempts have been made to explain the definite therapeutic results obtained and several authors, prominent among them Kuemmel, have suggested that the destruction of the sympathetic fibers in the capsule and of the sympathetic plexus around the pelvis and the upper end of the ureter may play an important part in bringing about good results, and have quoted analogous experiences gleaned in the sympathectomy around other vascular units. It might, therefore, be suggested that the nephrolysis and decapsulation furnishes the instantaneous temporary relief of the congestion and stagnation, while the definite and permanent therapeutic success is aided by the removal of the pertinent sympathetic fibers and ganglia. There was, however, another gap in the therapeutic reasoning because of the observation that in a good many cases a satisfactory curative result was obtained although one kidney only was decapsulated. This fact lacked a satisfactory explanation as long as the assumption was maintained that acute glomerular nephritis is always a bilateral affection. Recently the employment of a combination of the modern methods of medical and urological exploration has demonstrated that in a large number of cases only one kidney is involved and that unilateral glomerular nephritis is a well established clinical unit. The acquisition of this knowledge furnishes not only an understanding of some therapeutic results, but enables one to select with certainty the kidney that has to be approached by surgery.

The recognition of a unilateral glomerular nephritis is of importance also from another standpoint. It is a matter of experience that one diseased kidney, by the mobilization of nephrotoxic and nephrolytic substances may unfavorably influence its so far healthy mate, either by interfering with its functional capacity or in bringing about organic disturbances. Timely intervention upon the diseased kidney may, therefore, restore the normal function of its mate and prevent any further involvement.

An analysis of all the pathologic and clinical items will help to clear up the prognostic problem and to explain the favorable results and failures of nephrolysis and decapsulation. It

may reasonably be expected that in glomerular nephritis based on vascular disturbances the surgical interference will produce better results than in nephrosis, the degenerating form. Even the destruction of certain nervous complexes cannot be expected to be of great benefit in tubular diseases because the existence of renal secretory nerves has not yet been indisputably demonstrated.

As to operation, the observation of some surgical details will promote good results; the avoidance of general anesthesia is of great advantage in renal operations; therefore, paravertebral nerve blocking should be employed if possible. In order to prevent any additional hemorrhage the muscle splitting approach to the kidney should be employed. The kidney ought to be traumatized as little as possible. If there is no adhesive perinephritis and the fatty capsule is readily detached, the decapsulation may be done with the kidney in situ.

Summary: Nephrolysis and decapsulation have a well-founded place in the treatment of certain medical kidney diseases. It is important to establish the differential diagnosis between glomerular nephritis and nephrosis. Immediate and definite operative results may be expected in cases of nephritis; in nephrosis the outlook is doubtful and the operation may only be considered as a last resort. The failure of medical treatment to bring about quick results in cases of glomerular nephritis is a strict indication for surgical interference in order to prevent progressive destruction of the renal parenchyma. Early operation, when indicated, favorably influences the prognosis. It is imperative to establish the differential diagnosis between bilateral and unilateral glomerular nephritis: in the first instance, the decapsulation must be bilateral; in unilateral cases the diseased kidney only will be operated on. Bilateral decapsulation is better executed in two stages as simultaneous bilateral decapsulation may produce shock. The medical antinephritic treatment must be continued post-operatively until complete restoration is ascertained. Nephrolysis and decapsulation are practically without mortality. The splitting of the kidney, nephrotomy, is always a dangerous operation and leads to further destruction of renal parenchyma. It has no place in the surgery of medical diseases.

In extreme cases of unilateral nephritis, which resist medical therapy and decapsulation, removal of the kidney may have to be considered, under the following conditions: if the hematuria is so persistent and copious that the patient is in danger of becoming exsanguinated, or if under the influence of the diseased kidney its mate becomes impaired in its functional capacity to such an extent that the total elimination becomes unsatisfactory and eventual organic derangement of this kidney has to be feared.

108 N. State St.

BONE CYSTS; REPORT OF CASES

JAY IRELAND, M.D.

CHICAGO

The cases mentioned in this report are from the Children's Memorial Hospital, Chicago, and were treated from years 1920 to 1925.

Virchow in 1876 first discovered bone cysts and in 1891 Von Recklinghausen described the disease under the name of osteitis fibrosa cystica. It had previously been confused with osteomalacia, cyst formation, fibroma, and giant cell sarcoma. The word "fibrosa" refers to the fibrous connective tissue that forms between the bone lamellae in the bone tissue surrounding the cyst cavity.

REPORT OF CASES

Case 1. J. M., female, aged 40 days, entered the Dispensary, Oct. 31, 1921. The mother stated child did not move the right leg when two weeks old and cried when leg was touched. A physician then diagnosed a fracture and placed the leg in paper cast. He told the mother the leg was fractured.

Three of the patient's brothers and sisters died during infancy.

Physical examination showed swelling over tibia. Roentgenogram of right tibia showed a large cyst in the middle third, October 31.

Treatment was refused.

Patient returned, Feb. 16, 1925, complaining of pain in leg on jumping for past two weeks and deformity of leg.

Physical examination showed a sharp deformity in the middle third of the tibia with perhaps some lateral motion indicating a pseudarthrosis. Roentgenogram showed forward bowing of the tibia, a new bone formation, with some rarefied areas of bone at the site of the old bone cyst, but practically all of the old cavity had filled in. The fibula was negative.

An osteotomy was done and the tibia straightened.

Case 2. V. K., female, aged 7 years, entered the Dispensary, April 8, 1920, complaining of injury to the right arm with pain, and some loss of function,



Fig. 1.—Case 3. Bone cyst at trochanter major.

following a fall while at play at school April 7. The mother stated that she thought the fall was too slight to cause a fracture. The child had no previous illness.

Physical examination showed tenderness and crepitus of the upper humerus. The right humerus measured 17; the left, 18 cm. A fracture was suspected, roentgenogram was taken which showed fracture of the upper humerus and a bone cyst. Cyst did not involve the epiphysis.

A Velveau bandage was applied. This was removed eight days later and a plaster cast applied; this was removed May 14. Roentgenogram, June 8, showed complete recovery. Roentgenogram of all other bones in the body showed no cyst.

Case 3. M. P., male, aged 7 years, entered the hospital, Oct. 31, 1921, complaining that he fell from the steps October 6, causing pain in the hip, inability to walk, and limited motion of the leg.

Roentgenogram, October 31, showed a fracture into a bone cyst alongside the trochanter major, with no displacement (Fig. 1). Rentgenograms of all other bones in the body were negative for bone cysts.

Cast was applied, November 11, with leg in 40 degrees abduction. Cast was removed Jan. 20, 1922. Roentgenogram, March 25, showed cyst and fracture healed (Fig. 2) and the patient was discharged in a Thomas splint.

Patient was readmitted Oct. 24, 1922, complaining of pain and limping in the left leg since a slight fall October 3.

Measurements showed the leg $\frac{1}{2}$ in. shorter than the right. Roentgenogram showed the cyst recurred (Fig. 3). October 27 cyst was operated on by Dr. Albert Montgomery. Incision was made over the tro-

chanter major. The thin shell of bone was broken down with a mallet, some pieces of bone loosened at the operation were placed back into the cavity. Care was taken not to injure the epiphysis. The usual brown fluid was present in the cavity. No lining of the cyst was demonstrated. Smears and cultures of the fluid were negative for bacteria.

Roentgenogram, September 11 (Fig. 4), shows the cyst again filled in with bone.

Case 4. S. L., male, aged 8 years, entered the hospital March 27, 1922, complaining that he was hit on the left arm by a baseball March 22. He saw a physician at the time of his injury, who advised cold application to the arm.

He had measles at six years of age.

Physical examination showed the upper arm swollen and tender and inability to use the arm. Roentgenogram showed a large bone cyst near the upper epiphysis of the humerus and a fracture into the cyst.

March 29 the fracture was set under the fluoroscope and a cast applied. Roentgenogram, May 25, showed the fracture and cyst healed.

Patient was readmitted July 26, 1924, complaining of pain and swelling in the region of the upper humerus following a fall on the elbow, July 25.

Pain, tenderness, and crepitus were present in the region of the upper humerus and roentgenogram again showed a fracture into the bone cyst. In this case the bone cyst was about 2 in. more distally than previously.

Cast was applied. Rentgenogram, September, 1924, showed the fracture healed and cyst almost absent.

Case 5. E. S., male, aged 5 years, entered the hospital Nov. 19, 1923, following a slight fall down the



Fig. 2.—Case 3. Cyst healed.



Fig. 3.—Case 3. Cyst recurred.

steps, November 12. He complained of inability to use the left arm.

No swelling or deformity was present. Roentgenogram showed fracture into a cyst in the neck of the humerus. Roentgenograms of all other bones of the skeleton were negative for bone cyst.

A cast was placed on the arm. Roentgenogram, November 18, showed the fracture healed and a few small rarefied regions where the bone cyst was.

Case 6. C. O., male, aged 9 years, entered the hospital Nov. 24, 1924, complaining of pain above the left knee and inability to walk. This resulted when a boy fell on him while playing football. November 14.

He had measles and influenza at age 3. Blood Wassermann was negative.

Physical examination showed swelling and tenderness just above the knee. Roentgenogram showed a fracture into a bone cyst in the lower femur.

Cast was applied; this was removed Jan. 19, 1925. Roentgenogram then showed the fracture healed and the bone cavity almost filled in.

Case 7. W. M., male, aged 10 years, entered the hospital Dec. 18, 1924, complaining of lameness, and pain in the left hip, which started April 24, 1924, when he jumped upon the sand and fell. He had pain for three weeks following this; then all symptoms disappeared. On December 1, his mother noticed the left leg was shorter.

He had pneumonia four times.

Physical examination showed that the left hip was tender, and the left leg was shorter and smaller than the right. Roentgenogram showed a bone cyst near

the trochanter major. The cyst was operated on December 19, the wall crushed and the fragments of bone placed into the cyst cavity. Care was taken not to injure the epiphysis. No lining of the cyst was demonstrated. Cast was applied. Patient was discharged Jan. 30, 1925, at which time roentgenogram showed the cyst cavity filled in with bone.

COMMENT

The youngest case that I have been able to find reported in the literature was reported by Bloodgood.¹ He reports 89 cases, the youngest being 2½ years, as compared with case 1 of this report which is 40 days old. The fact that the child broke its leg when two weeks old suggests very strongly that the cyst was congenital. This is also suggested because the cyst was of large size when the child was 40 days old.

The fact that there was some evidence of the presence of the cyst when the child returned four years later shows the length of time a cyst may last if untreated, or if a simple fracture occurs and remains untreated.

Many causes have been given as etiological factors in the production of this disease. Infection has been named as a cause. In four of the seven cases reported here the patient gave a history of having never been ill before and no infec-

1. Bloodgood, J. C.: Osteitis Fibrosa Cystica, *Ann. Surg.* LII, 122, 1910.



Fig. 4.—Case 3. Cyst again healed after recurrence.

tion was demonstrated during their treatment. The fluid examined from case 3 was sterile, as is the history in most bone cysts that are operated on. In case 1 the mother gave no history of any infection during pregnancy, nor did the patient give any history of infection previous to the time of the fracture. Hence, the evidence of infection in all of these cases is extremely slight.

There was no history of trauma in any of them to cause the cyst, except in cases three and four. They gave no history of trauma at the appearance of the first cyst in each case, but at the recurrences, of course, there was the history of previous fracture.

Bone cysts rarely give any symptoms till an injury occurs. Very often a fracture occurs in the cyst, as it did in six of the seven cases reported here. The fracture occurs with much less trauma than usual; hence, the fracture is pathological. The symptoms in these cases are usually less than the symptoms of fracture without bone cysts. In case 1 the fracture was, perhaps, two weeks old when a physician was consulted; case 2 waited 24 hours and case 3 waited 25 days before consulting a physician; case 4 saw a physician the same day and cold applications were applied, but a fracture was not diagnosed till five days later; case 5 waited seven days and case 6 waited ten days before consulting a physician; and case 7 had symptoms eight months before the cyst was diagnosed. In most of the cases the injury was so slight that a fracture was not suspected. In none of the cases was a definite diagnosis made without the roentgenogram.

The simple type of bone cyst does not have a surrounding capsule or membrane. Two of these cases operated on did not have a capsule.

The treatment of bone cysts is usually by some mild surgical procedure. Four of the cases herein reported recovered after a pathological fracture into the cyst. One patient recovered from the fracture, but at the site of the old cyst the bone was badly bowed and after four years there was slight rarefaction at the site of the old cyst. Case 3 had a fracture into the cyst (Fig. 1) and 145 days later physical examination and roentgenograms (Fig. 2) from all appearances showed the cyst healed. However, roentgenogram 194 days later (Fig. 3) showed a cyst again present, and 316 days later the cyst was

again filled in with new bone (Fig. 4). Case 4 recurred after physical examination and roentgenogram showed both the cyst and fracture healed. Case 7 was operated on (no fracture occurred) because it was thought this was the simplest way to produce healing of the cyst.²

SUMMARY

1. Seven cases of bone cysts in children are reported; one being the youngest case on record.
2. All had pathological fractures except one.
3. All recovered without operation except two.
4. Conservative treatment is suggested—if a fracture occurs, treat it as a simple fracture with slightly longer period of immobilization; if no fracture occurs break down the cyst wall and immobilize, leaving the epiphysis undisturbed.

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2. Other articles discussing bone cysts are: Montgomery, A. H.: Surg. Clinics of Chicago, IV, 1287, 1920. Meyerding, H. W.: Amer. J. of Orthopedic Surgery, XVI, 253, 1918. Potts, H. A., and Hatton, E. H.: J. A. M. A., LXXXI, 2015 (Dec. 15), 1923.

THE OPERATIVE TREATMENT OF FRACTURES WITH REPORT OF AN UNUSUALLY COMPLICATED CASE*

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There is still considerable controversy and many divergent opinions in regard to the proper treatment of fractures in general and especially in regard to their operative treatment. Surgeons with the widest experience and of recognized authority do not agree. At the present time definite attempts are being made by surgical organizations to standardize the treatment of fractures, and it is hoped that simple standard methods may be universally adopted.

In connection with the presentation of a case which represents many of the problems one encounters in fracture work, I wish to give some conclusions arrived at after a study of the recent literature, from ideas gained by visits to several clinics here and abroad and my own limited experience.

It is convenient to consider the indications for operative treatment in three groups; compound

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fractures, simple recent fractures and old fractures.

Compound fractures which are likely to become infected should be treated by operative measures. Fractures caused by force from with-



Fig. 1. Compound comminuted fracture of the left radius. Taken June 23, 1920, immediately after the accident.

out as from shells, bullets, timbers, truck wheels, steam hammers, etc., are much more likely to become infected than those caused by force from within. In the latter case splintered bone punctures the soft parts from within and after contact with comparatively clean clothing, may spring back into the wound.

Compound fractures with severely lacerated and traumatized wounds are prone to infection. Fractures in which the wound has been contaminated with soil, bits of clothing, grease or other foreign material are sure to become infected unless the most thorough surgical measures are instituted. Compound fractures with extensive trauma of the soft parts and considerable comminution of the bone are another class easily infected.

De'bridement is indicated in evidently contaminated cases, and if this can be done within ten hours after the injury, the wound should be closed. If the patient is not seen until infection is obvious the wound should be widely opened and drained. Internal fixation with non-absorbable material is rarely indicated. All compound fracture cases should be given a prophylactic dose of tetanus antitoxin and all infected cases should be given repeated doses for four or five weeks if the wound is discharging.

Simple recent fractures which cannot be re-

duced or maintained in proper position after repeated attempts by the ordinary methods should be submitted to operative treatment. The administration of a general anesthetic and the reduction of the separated bones under the fluoroscope has greatly reduced the percentage of operative cases in the hands of many surgeons. Before undertaking the operation the surgeon must be thoroughly convinced that the operative procedure will give in that particular case a better functional result than by the closed method.

Some cases in which both bones of the forearm are fractured; fractures of tuberosities and condyles with separation or rotation of the parts, and certain fractures of the femur are sometimes irreducible. In fractures of the patella, olecranon and os calcis with separation of the fragments it is obvious that conservative treatment will fail.

When fractures occur near joints and the joint end becomes displaced as in some fractures



Fig. 2. Taken after the refracture, April 18, 1921. The ends of the fragments are greatly sclerosed.

of the neck of the humerus, femur and radius, open treatment may be necessary. It is very important to get perfect anatomical reposition when fractures extend into joints.

In cases where serious injury to the surrounding soft parts are evident, an incision should be made, ruptured vessels ligated, lacerated nerves

sutured and torn and separated muscles repaired. The interposition of muscle, fascia or other soft parts between the fractured ends is an indication for immediate operation.

Old fractures are seldom submitted to radical procedures unless there is considerable func-



Fig. 3. Sclerosed bone has been excised and the gap filled by the autogenous bone transplants. Taken four months after the inlay bone graft operation. (Albee technic).

tional disability, as in malunion, nonunion and pseudarthrosis.

Malunion occurs most frequently in the femur and humerus. The deformity may be either angular or shortening of the bone. The angular deformity may be corrected by open osteotomy with straightening; or if the deformity is extreme the deformed portion should be excised. If it is essential to maintain the full length of the bone, an inlay bone graft and bone fragments should be used to bridge the gap. If any form of internal fixation is necessary to help hold the ends in apposition, this should be accomplished by the use of kangaroo tendon, beef bone plates, beef bone screws or autogenous bone grafts.

It is difficult to determine exactly when a fracture with delayed union becomes a case of nonunion. I recall a patient whom I saw in consultation about ten years ago. A young man had suffered a compound comminuted fracture of both bones of the right leg a few inches below the knee, about eight months before I saw him. We thought that we had a case of nonunion to

deal with; however, before advising open treatment we had Dr. Dean Lewis see him, asking his advice especially as to open operation. He suggested waiting two or three months longer. Four months later, after slight weight bearing and mobilization, the bones were united. In this case union was not complete until nearly a year after the accident.

Every effort should be made to favor union in ununited fractures before a diagnosis of nonunion is made unless a definite cause can be demonstrated which cannot be remedied except by open treatment.

When operative treatment is necessary, the ends of the bones should be freshened by resection. The callus, blood clot, detached pieces of bone and tissues between fragments should be removed. After reduction, the limb should be placed in the position of muscle balance and if the ends of the bone do not remain in position easily they should be fastened together by some internal fixation material.

The use of an autogenous inlay graft is the treatment of choice in nonunion. A large bone graft should be used including all the layers of the bone, the periosteum, cortical layer, the en-

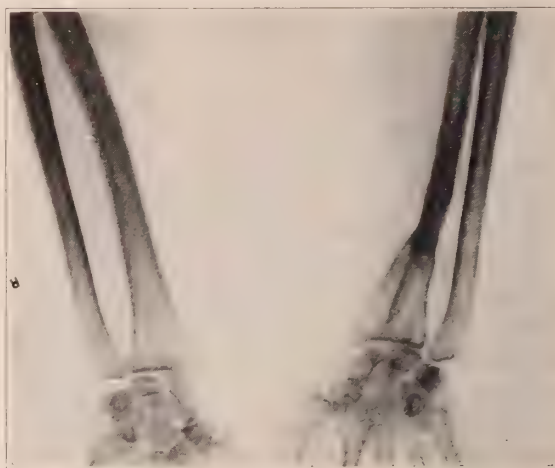


Fig. 4. Taken three years after the operation. Right, normal forearm. Left, shows almost complete bone regeneration.

dosteum and marrow. The graft should be of sufficient size and length to make a large contact of raw bone between graft and fragments, and like anatomical layers should be placed in apposition. The graft should be fixed with absorbable material, as this not only minimizes the

danger of infection but also is more favorable to callus formation.

Metal plates often fix the fragments so securely that the stimulus of stress to osteogenesis is removed, and if the fragments are separated by too much traction or by loss of bone substance, the plate is almost sure to produce nonunion by keeping the fragments separated.

In all cases where there has been an osteomyelitis or infected compound fracture, no attempt should be made to insert a bone graft until at least six months after all signs of infection have cleared up. Dormant and encapsulated virulent bacteria may be liberated and severe infection ensue regardless of scrupulous aseptic technique. The use of external splints is just as essential as after closed reduction.

In cases of pseudarthrosis the ends of the fragments are eburnated or sclerosed, the vascularity is decreased and the bone atrophied. The degenerated parts should be excised and the gap filled by an inlay graft and in addition, if the bone is large, by small fragments of bone. In these cases the main graft should be taken from the tibia, and the fragments from the bone removed in making the groove in the recipient bone.

In old fractures with loss of substance such as occurs in severe compound fractures followed by osteomyelitis or gunshot wounds or crushing injuries destroying sections of bone, operation may be indicated later to restore the lost bone. In destructive lesions of the tibia when the whole bone is destroyed, the fibula may be transplanted to fill the gap. This gradually hypertrophies by use of the limb until it becomes practically as strong as the tibia.

The open treatment of fractures has many advantages over the closed method. The fractured ends can be brought into perfect apposition and fixed there without difficulty. The work can be done much better under the guidance of vision. Fractures, irreducible by ordinary methods, can be reduced by operation and those whose reduction is doubtful can be reduced with ease and certainty.

The interposition of soft parts causing nonunion, is recognized and corrected early, injured nerves may be sutured, open vessels ligated, loose bone removed, and lacerated tissues repaired. The mobility of joints is less impaired in fractures near and extending into them. Better anatomical reposition of the bones is obtained

and therefore usually better functional results follow. On account of the possibility of earlier mobilization the period of disability is decreased.

As far as the general condition of the patient is concerned, the contra-indications to the open treatment of fractures are the same as those for any other major operation. If the patient is in severe shock or has lost a large amount of blood, the operation should not be done until he has sufficiently recovered. Serious cardiac, renal, hepatic and pulmonary disease, senility and cachexia are absolute contra-indications.

Infection of the skin, pimples, furuncles, cellulitis, abrasions, ulcers or infection of tissues adjacent to the fracture should be cleared up before operating. No operation should be undertaken if there is local disease of the fractured bone such as tuberculosis, syphilis and metastatic cancer.

The facilities for the most rigid asepsis and the special armamentarium for bone surgery are essential to success.

No simple fracture which can be reduced and held in good position by external manipulation and mechanical means should be subjected to open treatment.

Substituting a major operation for a comparatively simple procedure should not be done without due consideration of the dangers which may be encountered. The patient is subjected to all the dangers of a major operation which may be very tedious especially if operative team work is not well developed. There is more than the usual danger of infection on account of the lowered vitality of the injured tissues, blood extravasation, and the low resistance of fractured bone to infection. Osteomyelitis with destruction of bone, adhesions with functional impairment of muscles and joints are almost certain to follow and more serious complications sometimes develop. Disfiguring scars, operative injury to important nerves, bloodvessels and other tissues may result from the operation.

Steel plates and screws, metallic clamps, nails, wires, bands, spikes, bolts, staples and many other non-absorbable contrivances have been used as internal fixation splints. The main objections to the use of hardware of any kind are the increased dangers of infection, the fact that it is a frequent cause of nonunion, often necessitates a second operation for its removal and

sometimes is responsible for a secondary fracture.

If the fractured ends can be locked together or if they remain in apposition without any tendency to slip apart after open reduction, no internal fixation material should be introduced. If the fracture is in such a position, or if it is of such a nature that it is not likely to remain in reduction even when the parts are placed in the position of muscle balance, some type of internal fixation may be necessary. Absorbable materials should always be used if possible.

Heavy chromic catgut and heavy kangaroo tendon if properly applied will answer every purpose of wire. Kangaroo tendon and beef bone screws may be used instead of metallic screws, nails and staples. Beef bone plates should be used in place of metallic plates and clamps. The sliding inlay bone graft and the autogenous inlay bone transplant are useful in nonunion, and autogenous massive transplants have no substitute in bridging and repairing gaps where bone has been destroyed.

The case which I wish to report is one of a compound comminuted infected fracture, followed by a refracture, nonunion and pseudarthrosis.

W. B., employed as a hammer-man in one of the local factories, was injured by a steam hammer June 23, 1920. He suffered a compound comminuted fracture of the left radius, extensive laceration of the skin and muscles and destruction of a portion of the tendon of the left extensor carpi radialis muscle. Under nitrous oxide anesthesia, the devitalized and contaminated tissues were excised, many loose fragments of bone were removed, and a large attached splinter of bone was sutured with chromic catgut to bridge the gap left by the removal of loose pieces of bone. There was a slight infection in the wound which discharged for several weeks.

The arm was kept in a splint and treated by physiotherapy for several months. Then the arm was supported by a short splint while gradually increasing active motion and light work were allowed. Union was obtained but shortly after the small supporting splint was removed the patient suffered a refracture.

The x-ray revealed a refracture in the thinned out portion of the radius. This portion of the radius was greatly sclerosed. The arm was again immobilized for about two months and on account of the eburnation of the old fractured ends it did not unite. We then had a non-union and pseudarthrosis to deal with.

On June 24, 1921, under ether anesthesia a large bone graft was taken from the left tibia and transplanted into the grooves previously made in the fractured ends of each fragment of the left radius. The eburnated ends were excised and the gap of about

one inch was bridged by the graft, reinforced by two pieces of bone removed in making the bed for the graft. The inlay graft was fixed in position with heavy kangaroo tendon. The wound was sutured and the arm placed in a plaster cast.

The arm was immobilized for about two months. About three weeks after the operation massage and passive motion were started and active motion with gradually increased exercise were allowed after two months.

The function of the arm has returned almost to normal with the exception of a partial loss of extension at the wrist. This is due to the destruction of the extensor carpi radialis muscle by the steam-hammer and infection. The bone has regenerated to bridge the gap left in the radius by excision of the thinned out and sclerosed portion, and the injured radius is now practically the same as normal.

ARTERIOSCLEROSIS*

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Arteriosclerosis is a name given to pathological conditions of the arteries of which the most common are: In the very small arteries there is a thickening of the intima due to a proliferation of the endothelial cells, with an increase of connective tissue in the intermediary layer, which may partially or completely obliterate the lumen (obliterating endoarteritis). In the larger arteries new tissue may form beneath the endothelium diffusely or in circumscribed masses or it may encircle the vessel. The new formed tissue is generally fibrous, dense having few cells and is prone to undergo fatty degeneration, to become necrotic and to disintegrate and form atheromatous changes. The necrotic material may open into the lumen of the vessel and form emboli or the necrotic material may become calcified in the vessel. Fatty degeneration, atrophy and calcification may also occur in the muscularis and adventitia. A frequent form of sclerosis of the vessels in the lower extremities is that in which the main process of calcification is in the media. They are readily recognized with the x-ray as the calcified arteries give a clear shadow. The calcifications are more or less in ring form and may be transformed into true bone. The medium sized vessels become less elastic and are liable to yield to the pressure of the blood, and in this way form aneurisms or rupture. Arteriosclerosis may be limited to the aorta or to other

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single vessel, or it may occur in special vascular tracts like the brain, heart, stomach, etc.

Etiology. The etiological factors are gout, syphilis, diabetes, chronic lead and alcohol poisoning, overwork, overfeeding, excessive smoking and excesses of any kind. It is generally associated with valvular lesions, hypertrophy of the heart with chronic diffuse nephritis and there is generally an inherited predisposition to it.

Symptomatology. From the pathological processes we can readily understand that the symptoms will vary with the location and the extent of the lesion. The most common symptom, however, is high blood pressure, although we occasionally find a low pressure where there is a weak heart.

Of special organs. Brain. Cerebral arteriosclerosis is characterized by dizziness, vertigo, convulsions and mental symptoms which may simulate almost any psychosis, although the most common one is depression with self-accusation and self-destruction. We can safely state that a psychosis, where the first attack comes on past middle life, when syphilis and alcohol can be excluded, is due to cerebral arteriosclerosis.

Heart. Arteriosclerosis is characterized by angina pectoris, a picture that every physician is familiar with.

Stomach. Arteriosclerosis of the stomach is characterized by indigestion, flatulence, eructation of gas, hyperacidity and pain. A good many of the cases are diagnosed as cancer and are operated on when the mistake is discovered. A common symptom of arteriosclerosis of the stomach is falling asleep after meals.

Emboli are recognized by the sudden onset and as they are generally located in the brain or lungs. If in the brain by aphasia, paralysis of the face or extremities, unconscious, abnormal reflexes and by the many signs of which Babinski, Chaddock, Gordon, Lemchen, etc., are the most important. If in the lungs by dyspnea, hemoptysis with chest findings on physical examination. Obliterating endoarteritis is recognized by the gangrene it produces. It generally starts at the toes and mostly of the great toe. The skin of the toe becomes pinkish then blue and black. The toes are also numb and cold. It spreads up the foot and stopping at a place where a collateral circulation is established where it will demark. When kept aseptic

the gangreneous part will amputate itself and the stump will heal over.

A very interesting case is that of D. F., which is as follows: Admitted at the Kankakee State Hospital Jan. 8, 1913. Family history negative. Aged 35 years. Had been in the U. S. for 5 years. A baker by occupation. A good worker and was healthy till two years before his admission, at which time he fell and was out of his head for about three hours. However, he could walk and talk for two weeks afterwards as usual, according to his wife's statements. Two weeks after he fell, he began to show speech defect. He would think one thing and say something else. He also started to limp on the right side and showed defect in the right hand.

When admitted at the Kankakee State Hospital, he was well nourished, pupils reacted to light and accommodation. No disturbance in cutaneous sensations; knee jerks brisk but equal; slight Romberg; was unable to extend the fingers of his right hand. No Babinski nor Gordon.

Mentally, he was neat and tidy but restless—continuously on the go. Assisted with ward work. His speech was inarticulate, his words could not be understood, although he himself understood what was said to him. Would obey commands. Could not name objects shown to him, but would pick them out when told to do so. The Wassermann on the blood and spinal fluid was negative. There were three lymphocytes per c.mm. in the spinal fluid, and the globulin test was also negative.

Patient was admitted at the Chicago State Hospital on July 8, 1913, as a transfer from the Kankakee State Hospital. At that time he was aphasic but understood everything that was said to him. Helped with the ward work, was able to get around, although he had some weakness of the right leg and could not use well his right hand. He was pleasant and agreeable, apparently well oriented. Patient was getting along all right till August 12, 1918, at which time he developed ulcers on toes of both feet which necessitated him to stay in bed. The ulcers would heal, but in a few weeks would break out again. On the right foot the ulcers of the four first toes became gangrenous, amputated itself and healed by March 4, 1920. Sept. 11, 1924, patient developed gangrene of the left foot. First starting at the great toe, spreading up the foot, stopping at about the junction of the navicular and cuneiform bones, at which place it gradually demarked itself and finally on April 23, 1925, it amputated itself and the stump is gradually healing over.

Treatment Prophylactic. People must be warned of the danger of syphilis, alcohol, infections, overeating and excesses of any kind. A person with arteriosclerosis must lead a normal life with moderation in eating, drinking, smoking and exercise. He must avoid excitement and overwork. He must keep his bowels regular.

Medication. The iodides alone or in combina-

tion with citrates are still holding first rank in the treatment of arteriosclerosis, and meeting special indications as they may arise. One drug that has proven of value in my hands in depressions of arteriosclerosis is insulin. I have used it in 30 to 40 units once a day about 20 minutes before the noon meal with gratifying results.

For gangrene. The best treatment is amputation of the gangrenous part. However, if amputation for some reason is not advisable, the next best thing to do is to keep the gangrenous part dry and aseptic which is best accomplished by dressing it with 1/20 to 1/40 of one per cent. solution of potassium permanganate in water with a little alcohol in it. After the part has amputated itself the best dressing is a saturated solution of boric acid in water with a little alcohol in it, taking care that no crust forms at the edges of the skin, otherwise the skin will not grow over it. The best way to remove crust when they do form is to saturate a piece of sterile gauze with ether and go over the crust till they are removed.

THE QUACK CURSE—AND CURE

HOW THE PROFESSION MAY AID THE TRIBUNE'S
CAMPAIGN AGAINST THE DEPREDACTIONS
OF THE CHARLATANS

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A great public service is now being performed by a powerful newspaper—the *Chicago Tribune*.

It is engaged upon one of its periodical exposures of medical quackery in Chicago, and is pointing out—cleverly and effectively—many of the methods of charlatanry.

It is not the first time the *Tribune* has done this work. A recent editorial says it will not be the last time—and that is hopeful.

Unfortunately, the medical profession cannot expect that a great newspaper will continue unremittingly a drive of this type, even though the evil which is the target, is one of the most subtle and dangerous that affects humanity.

And it is decidedly doubtful if a continuous drive would be effective. Mankind is so constituted that the human mind loses interest in a subject after a certain period, and it is probably excellent journalism and also excellent judgment of human nature which prompts the

Tribune to engage in these crusades at reasonable intervals of time.

Yet, between these crusades, as the quacks feel that the public scandal of their practices has died down, they creep from their hiding places and again engage in their vile work of preying upon the unfortunate and fleecing the unwary and ignorant.

And, to the shame of the medical profession, it must be admitted that much of the fault for this condition lies with us and us alone. We applaud a great journal when it fights our battle. Occasionally, we give it some sort of half-hearted, unorganized support. But, due to a variety of causes which it is probably unprofitable to investigate in the scope of an article of this type, or even to enumerate, we do very little.

The *Tribune's* crusade has closed up some of these vile dens of charlatanry. They will remain closed as long as they fear an aroused public opinion—and no longer. It is therefore the province, nay, the duty, of the medical profession to see to it that public opinion, once aroused may not be suffered again to become quiescent, but that its force shall remain a continuing influence for the protection of the community and the safeguarding of suffering humanity.

And besides, there are many other things which can be done now that the *Tribune* has quickened the public pulse and conscience, in the suppression of quackery in all its phases, and in the stamping out of these parasites who prey upon credulity, fear and ignorance.

For it is not the advertising quack alone who is guilty. He is but one of an unlovely and by no means select circle of scoundrels which embraces the manufacturers of "cure-alls"—those marvelous nostrums, a few bottles of which will cure all the ills known and unknown to mankind; and the "cultists"—those seers of the invisible and unknowable—and unthinkable—whose curious methods and pretences to omniscience also proclaim their unlimited power to overcome human ailments, and certainly succeed in a magnetic attraction for human earnings; and the various "doctors"—who never saw a medical school, and who are by trade druggists, and barbers, and midwives, and herb chemists, and so on through all the nauseous, spidery list.

All of these levy their heavy toll upon igno-

rance—for ignorance is the foundation of every business edifice on Quack Street.

No one knows better than the reputable physician the horrible results of a visit to Quack Street. No one knows better the number of deaths; the amount of suffering; the unblushing banditry, which abound on Quack Street.

Handsome are the edifices on Quack Street, the temples testifying to the simplicity and credulity of millions of human beings. That the mortar which holds their walls together is mixed in human blood, and that they rest upon stones of human anguish, means little to those who live within them. Sharp-eyed for money; sharp-eared for careless words of their dupes that will put them upon the track of money, they are singularly blind and deaf to human sympathy.

That the dupe who strays into Quack Street has no disease means little or nothing to the quack. He is promptly supplied with one in imagination—and all too frequently in fact through the “treatment” given him.

That the dupe who strays into Quack Street is diseased is still a greater tragedy, for the more serious the disease, the more serious are the usual consequences.

And when reputable physicians cry out against the practices of Quack Street, the quacks often retort with a far louder cry of “jealousy” and “fear of losing practice.” The fact is that the reputable physician really suffers very little in pocket from the practices of Quack Street, because his services are usually called in finally to undo its evils.

But the reputable physician has a duty and an ideal and an ethical standard, and his education and training and environment have been such as to cause within him a lively concern for the interests and feelings and sufferings of his fellowmen. It is not merely “economic pressure” which actuates him—or should actuate him—in his battle against quackery, but his feeling for humanity, to whose service he has dedicated his life.

They are pitiful, really, the results of quackery. It is an eternal disgrace to humanity that there exist creatures sufficiently vile to prey upon simplicity—but the fact must be faced that this disgrace exists and must be uprooted.

About six or seven years ago, at another time when the *Tribune* was engaged in one of its periodic crusades against quackery, I made an

exhaustive investigation into the subject on behalf of the Douglas Park branch of the Chicago Medical Society. What I found was appalling. Druggists, “near druggists,” midwives, blatant ignoramuses—not ignorant, however, of the art of extracting money from the more ignorant—all busily engaged in this blood-sucker game of befooling suffering humanity. They create disease; they maltreat disease; they foster in credulous minds a brutish, ignorant scepticism of scientific attainment that threatens the welfare of the race. They stunt the growth of children, make unhappy the lives of adults, and shorten the earthly span of thousands of ignorant men and women. And that is quackery.

The efforts of great newspapers and great magazines and earnest laymen have given considerable education on the subject of quackery to the readers of that portion of the country’s press printed in English. There remains much still to be done. But the good work already performed has accomplished definite results, if it be continued.

To that dumb, almost sodden, helpless mass of the foreign-born who constitute so large a proportion of the country’s population, English language newspapers are often a closed book. They rely for their information upon the vernacular press, and they believe with child-like and wonderful faith in the printed word which they see therein.

This is not altogether remarkable. Many of these poor immigrants come to America from lands strongly paternalistic in government, wherein the press has been subject to regulation and more or less despotic control, and they have been trained to believe what they have read. The advertising quack who exploits his marvelous “cures” in these media, therefore, obtains really remarkable results from his advertising.

In my prior investigations, I found the foreign language press a most fruitful field for the exploitation of quackery, and at that time had communication with the most reputable newspapers in that field. The results were heartening, inasmuch as the best of these vernacular newspapers joined in an attempt to ban “medical” advertising, and in some instances, by editorials and otherwise, called the attention of their readers to the dangers of quackery. But after all, it was only a sporadic demonstration. The effects were not lasting, and for this I do

not blame the foreign language newspapers so much as I do the inertia of my reputable brother practitioners. We did nothing—or next to nothing—to utilize, consolidate and render permanent the good results obtained from that crusade of the *Tribune* and the resultant awakened conscience of other journals.

And we were little aided by existing laws or their avenues of enforcement. Public health legislation is notoriously lax both in matter and in manner of enforcement. This, I believe, is largely due to the apathy of the legitimate medical profession, and, to a considerable extent, this is a condition which can be rectified.

Ignorance is at the root of the entire growth of quackery. Enlightened and persistent education is its only effective germicide. Science must be made to prevail over pseudo-science, but to do that, science must be divested of its complicated terminology, and must be made clear to the average layman.

For it is an unfortunate fact that Quack Street has utilized even legitimate scientific attainment for its own purposes. Is there an important discovery in medical mechanics, such as the x-ray? Then promptly does Quack Street install complicated, imposing looking and confidence-building x-ray machinery in its dens. Does the Wassermann test indicate syphilitic infection? Promptly does Quack Street extract the blood of its victim and send it to a laboratory—or a pretended laboratory—for test. Often this blood is sent to a real laboratory, but the actual report makes no difference. Paraphrasing the remark of a great merchant that the “customer is always right,” Quack Street has adopted the maximum that “the patient is always infected.” And in this, Quack Street is usually almost right, for if the patient is not infected when he visits that thoroughfare, he generally is before he leaves it, and he is certainly invariably lightened in pocket.

And another element worth consideration is a by-product of the principal efforts of Quack Street. This is blackmail. Especially in the case of women—but by no means confined to women alone—blackmail is an important money-making element in Quack Street. Usually, it is a relatively small tribute which is levied, although there have been any number of cases where large sums have been mulcted from the

unwary. A favorite form of this blackmail is in the cases of young men and women about to be married, who are lured into the dens of Quack Street through specious advertising, and who are then informed that they are suffering from a “social disease” of some kind or other. Preying upon fears and upon the natural wish of youth to start this phase of life with a clean slate, a vicious form of petty blackmail is practiced.

The so-called “midwives” are outstanding exemplars of this type of blackmailing, for they frequently become possessed of highly valuable personal information, and generally do not scruple to use it to their own best monetary advantage. This is a form of blackmail and petty thievery which is common in the poorer and foreign sections of this city—and of every other city as well.

What are the remedies?

My investigations and a considerable correspondence with leading medical authorities, social workers, medical journals, societies, and various social agencies throughout the country, have led me to the belief that since the underlying cause of the flourishing of quackery is ignorance, the fundamental remedy must be education.

Without sacrificing the ethical ideals of our profession, medical men, medical institutions and medical societies must work together for the suppression of quackery. The devil must be fought with fire, and adequate information must be conveyed to the public of the dangers of quackery, and of the availability of competent medical service under all circumstances. This could be done by proper exploitation of medical science and the constant advancement being made in it; by advertising—if need be—warning against quacks, although, of course, without advertising any individual practitioner; by periodic quickering of the public mind and the supplying of such agencies as the *Tribune* and others which have evidenced an enthusiasm for this campaign with adequate material; by the designation of a definite body or committee whose task it shall be unremittingly to ferret out all possible instances of quackery and lend its aid to their exposure; by publication to as great a degree as possible of the ingredients of the most popular of the “cure-all” nostrums, and in every other conceivable ethical manner to co-

operate with all enlightened agencies for the dissemination of health information.

Then comes the matter of legislation. It may be regarded as axiomatic that there will be no legislation of any value which is not founded upon proper education. Therefore, education is the primary essential. The popular mind must be disabused of the absurd idea that there is a "medical trust." The popular mind must be imbued with the truth that it is not in the main for economic reasons that the medical fraternity fights quackery. The people must be made to understand, however, that if they desire good health and proper treatment, they must conserve those men and agencies who have devoted their lives to this purpose and must at least afford them a reasonable livelihood. This is common sense.

I would recommend, therefore, as a first step—since the lead must be taken by some organization—that the Chicago Medical Society take this matter under immediate consideration; designate a committee, instructed to act without delay, and that the Society provide adequate funds to start a campaign of education to cooperate with the *Tribune* and every other possible agency for the dissemination of information regarding medical science and the dangers of pseudo-science and quackery.

I suggest as the next step that this Society enlist the aid of the American Medical Association and all available social agencies toward the same end, and, if possible—and it should be possible—to map out a cohesive, coordinated and comprehensive campaign for public education, to be followed by a similar campaign for sane, reasonable and enforceable legislation, having for its purpose the raising of medical standards and the discouraging of quackery in all its forms.

This is feasible. Such legislation may not come all at once. It will not. But a definite program, properly adhered to and founded upon public education, will ultimately bring it about—at least to a degree which will afford a far more satisfactory condition than that under which we now suffer.

For Quack Street flourishes upon ignorance and credulity, and to wipe out Quack Street should be the sacred duty of our profession. The method is to flood it out, to wash away its slime; its humanity-sapping poison. And the

only effective agency, the only cleansing fluid, is education.

5 South Wabash avenue.

DIAGNOSIS AND MANAGEMENT OF PARALYSIS OF THE LOWER EXTREMITY WITH SPECIAL REFERENCE TO GLUTEAL PARALYSIS

PHILIP H. KREUSCHER, M.D.

CHICAGO

The diagnosis of paralysis belongs in the realm of the neurologist. It is not our purpose in this clinic tonight to usurp any of his rights nor to trespass upon his territory. We hope only to bring out a few of the more important diagnostic points in the diagnosis and differential diagnosis as it concerns the involvement of the lower extremity and especially gluteal muscle paralysis.

In recent months we have heard and read a great deal of spastic paralysis and have seen a considerable amount of work performed along this particular line. The condition which interests us most is the flaccid paralysis of anterior poliomyelitis as it disables the lower extremity of our younger patients. In order to correctly treat these cases one must first of all correctly diagnose. We differentiate two kinds of diagnoses, first of all, the neurologic, and second, the anatomic diagnosis. In our management of paralytics as in the treatment of most every other condition the accurate history or story as told by the patient or his parents is of prime importance. Our physical examination comes next and finally such laboratory tests as may be required to clinch the diagnosis.

In a given case, usually a child, where there is considerable temperature and prostration without any very definite findings and where there is extreme tenderness involving certain extremities one must suspect either an acute infection involving the bone of that extremity or an early pre-paralytic stage as seen in cases of infantile paralysis. At this particular time, before the paralysis, the examination of the spinal fluid often shows some very definite findings. The increase in cells in the spinal fluid during the first week and the marked globulin reaction a little bit later is very suggestive. If, then, one finds only a slight increase in the leucocyte count

with an increase in lymphocytes and a decrease in the polymorphonuclear leucocytes, then just a little more evidence is added in this case. When finally the paralysis occurs scattered flaccid, purely motor, with diminished or lost reflexes in the affected member, and a little later muscular atrophy, one has almost clinched the diagnosis. I think that it is conceded that no other purely motor paralysis or weakening of this scattered character occurs excepting in anterior poliomyelitis. Peripheral nerve lesions, transverse spinal cord lesions, hematomyelia, all are attended by loss of sensation. Jones and Lovett in their text-book warn us of a definite obscurity which arises when occasionally the cerebral motor cells are attacked as well as the spinal. In this case there results a hemiplegia of unusual type, not very severe, but with spastic and flaccid muscles combined, while reflexes are increased and the gait is like that of an ordinary cerebral hemiplegia. Amyotonia congenita, as described by Oppenheim, can simulate a severe grade of infantile paralysis quite closely, especially when accompanied by hip and knee flexion contractions. It is to be differentiated by the history of onset, which is usually insidious and very early and which is generally present at birth, even though not immediately detected. It is characterized by flaccidity without local atrophy.

There are certain cases which add to our difficulty in diagnosis and I wish to cite three, two of which I have found in the literature and one of my own. In the first instance, a boy aged 8 who had fallen and fractured his elbow was treated as a fracture case of this type. A plaster cast was applied and permitted to remain on for three weeks, only to find on its removal that the entire arm was paralyzed. It was remembered by the mother that during the second week of his incapacity from this fracture he had had an illness of 24 hours duration, which, of course, was his infantile paralysis. A second case was that of a boy who during the course of treatment for a congenital talipes equinus became seriously ill for several days and then recovered apparently. When the cast was removed it was found that his entire extremity below the knee had been involved by an anterior poliomyelitis. The third case I saw several weeks ago in a child three years of age who was suffer-

ing from a very mild illness, so mild that he was up and about at his play. During the course of the play he was struck by one of the older boys with a baseball bat. The blow came over the child's spine in the upper lumbar region and was sufficiently severe that a small hematoma formed to the right of the spinal column. After several days the mother noticed that the child could not use his right lower extremity and examination showed a rather definite peroneal paralysis. We now know, of course, that the blow upon the back had nothing to do with the involvement of the lower extremity.

In our anatomical diagnosis the neurologist again aids us very frequently by proving the presence of the reaction of degeneration in the various groups of muscles. In the lower extremity we speak of the stabilizers of the hip, the stabilizers of the knee and ankle. Then again we recognize adductors, abductors, flexors and extensors. In the advanced or more complete cases where the lower extremity is involved frequently no muscle remains intact except possibly one of the glutei, the sartorius, or the tensor fascia lata, usually always the iliopsoas remains. The case which I wish to present tonight is one in which all muscles below the crest of the ileum were paralyzed excepting the ilio-psoas. This child having never used crutches was brought to my clinic three years after the paralysis with complete flaccidity of the left lower extremity, having as her only means of locomotion the use of chairs or tables by the aid of which she hopped about the room, dragging the paralyzed leg.

Our management of this type of cases has two purposes, first to improve function, and second, to secure stability. In this type of case one implies the other. Having no adjacent muscles which we could utilize for our transplantation, we decided to follow a suggestion made by Lange, of Munich, namely, the utilization of the erector spinae muscle for the production of gluteal action. The outer half of the erector spinae muscle is detached and by means of silk ligatures an attachment is made to the greater trochanter and to the upper end of the shaft of the femur in such a manner as to produce abduction action in the femur when the child brings the erector spinae muscle into play.

(Demonstration of Case.)

OUTLINES OF ROUTINE EXAMINATIONS OF THE BACK AND CERVICAL SPINE

PHILIP LEWIN, M.D.

CHICAGO

The purpose of these outlines is to present forms to be followed in making routine examinations of the back and cervical spine. If these are followed, very little of importance will be overlooked and if the interpretation of these findings is correct, a diagnosis should be made in the majority of cases. They are of especial interest to men engaged in industrial surgery and in insurance work, both prophylactically and therapeutically. No claim is made for originality or comprehensiveness. The outlines are presented only as guides.

No back examination is complete without an examination of the feet.

EXAMINATION OF THE BACK
STANDING INSPECTION

Anatomical location of affected area as referred to by patient.
Chest expansion
Type of Respiration—Thoracic—Abdominal
Signs of Abscess
Physiological antero-posterior curves
Scoliosis
Level of shoulders
Level of scapulae
Ilio-costal angles
Level of iliac crests
Symmetry of buttocks
Level of gluteal creases
Dimples in region of posterior superior iliac spines
Rhomboid of Michaelis

SPINE MOVEMENTS	Degree	Pain	Spasm	Area of Rigidity
Flexion				
Extension				
Lateral bend to right				
Lateral bend to left				
Torsion to right				
Torsion to left				

Squatting.

SUPINE

Length of Legs
Degree of Lordosis
Hip rotation right
Hip flexion c Knee flexed Active {R. Fixed? Left Passive {R.
Hyperflexion of both thighs
Hip flexion c Knee extended Laseque sign
Hip abduction Right Left
Heel on opposite knee, flexion, abduction external rotation and extension of hip-fabre sign (Patrick)
Right heel on left knee Left heel on right knee
Lateral movement of both legs and pelvis
To right To left
Gaenslen test hyperextension of 1 thigh and hyperflexion of other
1. Rt. thigh hyperextended
2. Lt. thigh hyperextended

PRONE

	Degree	Pain	Spasm
Extension of thighs			
Right			
Left			

Areas of tenderness and sensitiveness
Spine
Sacro-iliac
Sciatic nerve course, knee flexed
Muscle spasm
Compression of iliac crests

SITTING

Knees extended, flexion attempting to touch toes
Knees flexed, legs hanging over side of table: which position more comfortable?
Extension of spine, exaggerated military attitude
Flexion of spine, round shoulder attitude

Reflexes	Knee	Achilles	Cremaster	Babinski
Right				
Left				

ROENTGENOGRAMS

Antero-posterior stereoscopic
Lateral
Other joints

EXAMINATION OF THE CERVICAL SPINE

Patient Seated.
Anatomical location of affected regions as referred to by patient.
A. Inspection
Asymmetry
Signs of abscess—External—Throat
Prominent muscles

Neck Movements	Degree	Pain	Spasm
Flexion of head: chin to chest			
Extension of head			
Right ear on right shoulder			
Left ear on left shoulder			
Look behind over right shoulder			
Look behind over left shoulder			

B. Palpation
Areas of tenderness
Areas of induration
Crepitus
Pain on jarring
Muscle spasm
C. Auscultation Crepitus
D. Roentgenograms

Antero-posterior stereoscopic
Lateral
Shoulder joints

SOME DIAGNOSTIC POINTS OF DISORDERS OF THE ALIMENTARY TRACT*

EDWARD LOUIS HEINTZ, M.D., and
RICHARD GEORGE JOHNSON, M.D.

CHICAGO

The disorders common to the alimentary tract present as many confusing symptoms, and require as much speculative insight and knowledge for their proper interpretation as the disorders of any organ or set of organs in the human body. But the redeeming feature is that nearly every disorder presents a few cardinal points and ear-

*From the medical service of the University Hospital, Chicago, Illinois.
*Read before the Illinois State Medical Society, Quincy, May 21, 1925.

marks which differentiates it from other disorders in the gastro-intestinal tract.

The multiplicity of abdominal symptoms has always presented a problem that has taxed the ingenuity and acuity of the physician in making an accurate diagnosis. The alimentary tract, with its many yards of possible pathology and its nooks, corners, and winding lanes, offers unlimited possibilities for the development of confusing symptoms.

Therefore, we have arranged this paper so as to present in clear form a few of the outstanding features which we believe characterize each gastro-intestinal disorder and facilitate an accurate diagnosis. The points presented are taken very largely from "Cardinal Diagnostic Points" compiled by the staff teaching junior medicine in the College of Medicine, University of Illinois, during the past thirteen years.

The esophagus with its tube-like structure, is the frequent site of disease, the most common of which is stricture. Frequently the etiological factor is trauma from a foreign body or a caustic which results in a cicatricial scarring and more or less obstruction in the esophagus. Obstruction caused by malignant growths in the wall of the esophagus, or due to extraneous pressure, are not uncommon occurrences. In cases of obstruction to food passing down the tube, we may find a definite history that at once gives a clue to the seat of trouble. Painful deglutition and regurgitation of food are often important points, but more frequently we can make our diagnosis by objective findings. The simple procedure of filling the esophagus with a barium sulphate suspension which casts an opaque shadow to x-ray and of visualizing the obstruction directly by means of fluoroscopy, gives the greatest aid in diagnosis. In malignant disease of the esophagus where the age is an important factor, the occurrence usually is after the third or fourth decade. But here again a fluoroscopic examination which will reveal the ragged and irregular outline of the new growth extending along several centimeters of the tube, makes a diagnosis comparatively certain. Extraneous pressure, as that from aneurysm, mediastinal tumor, etc., can usually be recognized by the physical and x-ray findings. The most frequent cause, however, is from syphilis. Here a positive Wassermann test or concomitant signs of syphilis are suggestive.

Diverticulum, or a pouch of the esophagus, though not a common occurrence, is recognized from a history of regurgitation of food some time after eating and without effort, and of substernal pain. The simple method of inserting an aspirating tube will often give an immediate clue to the pathology. The tube passes a certain distance down the esophagus and suddenly meets with obstruction. Considerable food, free from gastric juices and the normal acids of the stomach, as evidenced by the lack of characteristic odor as well as chemical examination, at once speaks for an aberrant route. Again by filling the esophagus with the barium sulphate, a retention of the material in the sac may be demonstrated, thus giving conclusive evidence.

The diagnosis of hemorrhage from esophageal varicosities offers a problem that makes one scratch his head at times, but ruling out the bleeding from gastric pathology of ulcer and malignancy, to be explained later, and by the physical findings of a hepatic cirrhosis, we have fairly convincing evidence as to source of the hemorrhage. Differentiation from hemoptysis can be made by the absence of the coughing associated with the latter, and the associated lung pathology which is usually present. Bleeding from carcinoma and syphilis of the esophagus must not be overlooked and where the latter is suspected a Wassermann test is indicated. Cardiospasm, or stricture at the cardiac orifice of the stomach can be recognized by passing an aspirating tube, and by fluoroscopy findings. Regularity of outline of the lower end of the esophagus and symmetrical bulging suggests cardiospasm in contradistinction to the irregularity of outline in disease of the esophagus.

It has been jokingly said that there are only three ways for a fat to reduce, namely, to work more, to eat less, or bust. Likewise, in the diagnosis of gastric disorders, there are three things to consider: the history of clinical symptoms, the physical findings, and the laboratory findings. Of these the order of importance is variable in the different disorders; for instance, in the diagnosis of peptic ulcer, the history of a localized gastric distress, coming in from one to two hours after meals, and the relief afforded within fifteen or twenty minutes by the taking of food, alkalies, or by aspiration, is very charac-

teristic. The periods of quiescence and intervals of complete relief from symptoms interpolating the recurrent attacks, is an important point in the history. The laboratory findings may show a high or low gastric acidity. Frequently blood found in the gastric contents aids in the diagnosis. A microscopic examination is especially important in the search for sarcinae to determine the retention of material in the stomach for a period of a day or more. This gives an important clue in the obstructive type of ulcer. With these diagnostic points the physical findings of a localized point of tenderness in the epigastrium and not infrequently visible peristaltic waves passing from right to left are important. In addition to this the fluoroscopic and plate findings as confirmative evidence make the way comparatively easy to a correct diagnosis.

By the application of similar methods in malignant disease of the stomach, we can sometimes differentiate rather early, a suspected malignant growth from other gastric disorders. In the gastric ulcer cases there is frequently a history of repeated recurrences of the acute or the sub-acute gastric indigestion syndrome, whereas, in malignant disease, unless preceded by ulcer, we have a history of a gradually increasing severity of the gastric indigestive syndrome extending over a period of some months.

The field for diagnosis is so vast in gastric disorders that only by the combined methods can we accumulate the data to make the picture which is characteristic of the disease. After all, the art of diagnosis may be compared to that of painting a picture, because we must have our fundamental background and then fit in the constituent parts. The small points, insignificant as they may seem in themselves, may be the important parts needed to complete the symptom complex.

The important factors in malignant disease of the stomach are: the history of anorexia; rapid loss of weight and emaciation; slowly developing anemia; the finding of persistent blood in small amounts in the stools, in contradistinction to ulcer, where blood is apt to be found intermittently; blood in gastric contents; usually absence of free Hcl and frequently the presence of lactic acid, and of Boas-Opler bacilli. These are the important earmarks that are quite unmistakable and should make one suspicious

immediately of the nature of the disease. Not of lesser importance, too, are the fluoroscopy and plate findings, which usually detect the location and shape of the defect. We have found in our experience that filling defects observed within the lumen of the viscus are usually benign, whereas the malignant disease is usually observed to be existent without the lumen of the viscus.

The more acute disorders, such as acute gastritis, membranous gastritis, and acute dilatation of the stomach, are recognized by the history of the ingestion of toxic or noxious food or liquid, and of indiscretions in diet, especially too rapid eating or over-loading of the stomach with food. In acute gastritis there is usually considerable distention of the upper part of the abdomen, with nausea and vomiting and a burning sensation in the epigastric region. Even prostration may occur in the very severe cases. In toxic gastritis, the history of imbibing corrosive or non-corrosive irritants, with symptoms of intense epigastric pain, vomiting and retching, shock and collapse often leads one to a correct diagnosis. The presence of sloughs of mucosa and blood in the vomitus is almost conclusive evidence. A gastric crisis with or without vomiting can usually be detected by the concomitant findings of pyhilis as well as the positive Wassermann test.

We have found in the course of our clinical experience that the seat of vague abdominal symptoms can more frequently be traced to the bowel and bowel pathology than is generally recognized. This is especially true in the chronic disorders, such as chronic appendicitis, chronic enteritis, irritable condition of a bowel, and chronic constipation. In the former we have a history of recurrent attacks of pain, either diffuse over the lower abdomen or localized to the lower right quadrant. There may be nausea and vomiting and a temperature of 99° to 100° F. On palpation there is usually slight rigidity of the right rectus muscle. The blood may show a leucocyte count of 10,000 to 12,000. We must always consider a possible kidney pathology with symptoms of intermittent colic, but this is usually more severe in character. In the different types of chronic enteritis we usually have the intestinal indigestion syndrome.

In a spastic condition of the bowel there is

usually a history of chronic constipation, with the habitual taking of cathartics, drastics, and purgatives, as well as repeated irritant enemas. As in gastric diagnosis, the use of fluoroscopy and plates aid a great deal in reaching a conclusion. An enema of barium sulphate suspension will give an outline of the bowel and in most cases reveal any pathology, such as malignancy or diverticulum, that is present. Careful stool examinations will often reveal the important point in diagnosis. The presence of blood, bacilli, or fungus will often solve the problem. The importance of finding the tubercle bacillus in the stool in cases of tubercular colitis, is an example. The presence of amebae in amebic dysentery likewise is diagnostic.

In the acute forms of intestinal disorders, the symptoms are usually more distinct, such as the symptom complex in acute appendicitis, in acute intestinal obstruction, and acute enteritis. To differentiate these sometimes taxes our ingenuity, but by complete physical and laboratory findings we can usually reach an accurate diagnosis.

In reviewing the cardinal diagnostic points of some of the more common disorders of the gastro-intestinal tract, we have endeavored to bring out the importance of complete history writing, physical examination and laboratory investigation, as well as roentgen-ray examination. The field of gastro-intestinal disorders is so vast that if we can succeed in diagnosing correctly the more common ailments, we have traveled a long way toward the goal of perfection.

30 N. Michigan Ave.

SOME EXPERIENCES IN DEALING IN MEDICAL LEGISLATION*

J. R. NEAL, M.D.

Chairman, Legislative Committee of the Illinois State Medical Society

SPRINGFIELD, ILL.

It is with some hesitation that I present a paper on a subject so thoroughly covered in the many previous and excellent discussions that have been presented to this conference.

Here, in Illinois, we have been fairly successful in handling this intricate and interesting problem—the medico legislative complex. The

Illinois State Medical Society is composed of the various county societies with a governing executive body of eleven councilors elected annually by the House of Delegates.

THE ORGANIZATION AND WORK OF THE STATE COMMITTEE

A legislative committee of three members is also elected by the society to cooperate with and to be advised by the council which plans the legislative program.

The work of the legislative committee under the guidance and supervision of the council is:

1. To organize the medical profession for legislative activity, for the better protection of the public health.

2. To instruct the members chosen on the various local committees in all legislative matters of interest to the society.

3. To educate the legislators regarding matters concerning the public health and the necessary protection of the people of the state in this most important subject.

As each councilor has a certain number of counties or districts under his jurisdiction it is a comparatively easy matter for him to select a legislative committee of local physicians in his district.

The method we follow in any given councilor district is as follows: Immediately after the election of a member of the legislature the councilor selects a committee of physicians who are willing workers and who, if possible, reside in the same city with the elected member, one of whom is always his family physician. Frequently this group is augmented as the situation demands in any particular district.

Through the aid of the councilor a questionnaire is completed by several members of the committee relative to the particular legislator in that district. This questionnaire asks for the name, address, senatorial district, occupation, politics, name of political advisor, name of family physician, attitude toward medical profession, previous legislative record, etc.

These reports are sent to the chairman of the state legislative committee who carefully checks and correlates this information; conflicting reports are reconciled and any missing information sought. Occasionally, but not often, do we have to change the personnel of the local committee,

*Delivered at the annual Conference of Secretaries of Constituent State Medical Associations, Chicago, Nov. 20-21, 1925.

if there is laxness in cooperating, and resort to more willing workers.

This briefly explains our first problem—that of organization.

Secondly, the schooling of the various local groups is assumed by the state legislative committee, and an intimate contact is maintained throughout the session of the legislature. A weekly digest of all bills of interest is sent to each local committeeman so that he may be properly informed and can talk intelligently with his representative or senator on all medical bills.

Inasmuch as each member of the general assembly is elected in his respective district, it is from the voters of his district that he looks for advice and guidance.

The chairman of the state committee resides in Springfield and maintains an acquaintance with all the leading members of the general assembly, but does not attempt to influence them directly. If he finds their attitude contrary to ours he relays this information to the local committee, frequently making suggestions as to what method would be most acceptable in convincing the law-maker that his decision should be altered.

Legislators are politicians and seek popular favor and are ever ready to listen to advice from their own voting districts. In a number of instances when the physicians have been unable to convince the law-maker we have used a committee of dentists druggists and lawyers to intervene in our behalf, and also frequently resort to his banker and religious advisor for a like service, because the medical profession does not seek to alter his opinion unless our request is predicated on the protection of the public health.

The local committeemen are given full credit for the voting attitude of the legislator and assume the responsibility with a fine spirit of cooperation.

We have no large medical lobbies of physicians and in this manner save an immense amount of time and expense to the profession. The work can be and is done more effectively in the home districts.

Many legislators honestly believe there is a professional jealousy held by the medical men against the cults, and this propaganda is instilled into them by the cultists in a most efficient manner, and anything a physician says to this type of legislator derogatory to the drugless

healer tends to strengthen this belief and many votes are cast against us through this error. This thought brings up an interesting angle of our work in schooling the physician and, that is "What not to do." To illustrate: In the recent Illinois assembly a prominent physician was asked to write to the three legislators in his district opposing a certain bill creating a drugless healer's board, the letter commenced as follows:

"When the tornado last spring devastated southern Illinois there was an appeal for physicians, but no invitation was extended to the pseudoscientific charlatan, the second story grafter or the bungling ignoramus known as the chiropractor."

This is wrong, all wrong, and enhances the belief that our legislative opposition to such cult measures is based on jealous fear.

Many osteopaths, chiropractors, naprapaths, etc., are law abiding citizens, property owners and church members, and such unkind inuendos are unnecessary, and devoid of proof. If we cannot show the fallacy of their claim for special privilege legislation without delving into personalities we are necessarily making our task most difficult.

Group meetings are frequently arranged by the councilor, and one of the members of the state legislative committee is invited and a full discussion is had of any pending legislative problem needing attention in that particular district.

The ILLINOIS MEDICAL JOURNAL as well as the *Bulletin of the Chicago Medical Society* have always cooperated by publishing any material suggested by the legislative committee, besides the many fine original articles and editorials, which not only instruct the individual local committeeman, but also keep the entire membership informed as to the legislative situation.

The lay education committee through its wonderful work here in Illinois has been most beneficial in arousing helpful interest throughout the state in all matters pertaining to medical legislation.

Having our organization completed and instructed prior to the convening of the legislature we are ready for the more important work—that of instructing the law-maker so that he may vote intelligently on the many important medical bills which will be considered during the session.

The last Illinois legislature was composed of

153 members in the house and 51 in the senate. A summary shows these members by occupation as follows:

HOUSE OF REPRESENTATIVES

Lawyers	42	Deputy Coroner	1
Farmers	15	Farming and Federal Farm	
Real Estate and Insurance..	13	Loans	1
Insurance	10	Real Estate and Investments	1
Real Estate	9	Salesman	1
Publishers	5	Furniture Dealer	1
Clerks	4	Hotel Proprietor	1
Contractors	4	Iron and Steel.....	1
Retired	4	Lather	1
Farmer and Banker.....	3	Linotype Operator	1
Grain Merchants	3	Master Painter	1
Home Maker	3	Miner	1
Merchants	3	Musician and Merchant....	1
Farmer and Merchant.....	2	Patent Attorney and Man-	
Manufacturers	2	ufacturer	1
Printers	2	Paving Inspector	1
Teachers	2	Physician and Surgeon....	1
Auditor and Accountant...	1	Publisher and Lawyer.....	1
Author	1	Oil, Gas and Coal Leases,	
Automobile Distributor	1	and Real Estate.....	1
Automobiles and Farmer...	1	Restaurant Owner	1
Banker	1	Wholesale Hay	1
Business Education	1	Wholesale Beverage	1
Clergyman	1		

SENATE

Lawyers	19	Housewife	1
Manufacturers	3	Insurance	1
Merchants	3	Lumber, Grain and Coal...	1
Bankers	2	Miner	1
Retired	2	Pharmacist	1
Accountant	1	Publisher	1
Automobile Dealer	1	Real Estate and Insurance..	1
Bond Broker	1	Secretary	1
Builder	1	Superintendent Department	
Dealer in Live Stock.....	1	of Compensation, City of	
Druggist	1	Chicago	1
Engineering Contractor...	1	Teacher	1
Farmer	1	Traveling Salesman	1
Farmer and Fruit Grower...	1	Writer	1
Farmer and Stock Breeder..	1		

To rightly inform such a group on the proper standards to protect the public health is not all too easy, although possible, as has been shown by the result of the society's work in the legislature.

Many members serving their first term become confused at the great number of bills touching on every known subject and naturally cannot analyze and decide what is best for the people at large unless those interested in any particular proposal make an effort to put the facts before them in a fair and honest manner. It is therefore necessary to canvass this situation carefully and inasmuch as the members of the general assembly, as shown by the above summary, are business and professional men from every walk of life, intelligent information is sought by them; and all too frequently, due to the laxness of those interested, do these law-makers err in the proper

understanding of some of the many bills that are presented.

When a governor is elected the legislative committee asks for an audience, which is always granted, and we arrive at the governor's attitude toward the important problem of protecting the public health.

When our present Governor Sinall was first elected, he granted the committee a two hour conference at the mansion and informed us that his father was a physician and that he was in full sympathy with the medical profession in its endeavor to protect the inhabitants of the state of Illinois relative to health matters. Every official action of his has proved his sincerity in this regard. During the last session a bill passed the legislature which gravely interfered with the work of the board of health, especially in Chicago. The medical society's legislative committee, cooperating with the state and local boards, had an audience with the governor, and after seeking the point of view of the medical society and others registering a just protest he promptly vetoed the bill. This instance merely illustrates the advantage of early seeking the attitude of the governor relative to health supervision.

Harry Eugene Kelly of the Chicago Bar in his treatise on "Regulation of Physicians by Law" says, "Nearly every member of a legislature strives to promote justice, and has constantly in mind that worthy ambition. Every member's secret purpose is to conduct his legislative business in such a manner as to avoid criticism on the ground that his official conduct has been oppressive or otherwise unjust."

We find this statement uniformly true, and many times during the last session we noted with pleasure the changing of the attitude to one more favorable to us when the member had been properly informed. In fact, this is the function of the legislative committee: to correct the evils that the proponents for class legislation have succeeded in gaining. The following case illustrates:

A young and capable attorney was elected to the house of representatives for the first time last year and he was very desirous of fulfilling his pledge to his people. When the chiropractor's bill appeared a member of our committee interviewed him and he was avowedly for the bill

having carefully investigated the great service the chiropractors were doing. He was confident that they were only seeking their just rights, and he was pledged to support them. Our local committee functioned perfectly, giving him a copy, marking many passages in Kelly's "Regulation of Physicians by Law," and in an educative way showed him the fallacy of the bill. The result was that he made a powerful and able speech on the floor of the house against the measure and contributed materially to its defeat.

This, we believe, is constructive legislation. Never do we try to use force or political threats.

We used 300 copies of Mr. Kelly's book last year, obtained at a nominal cost from the American Medical Association, and succeeded in preventing forty-nine bills aimed at the medical profession from becoming laws.

We find but in few exceptions that measures are not understood by the members of the general assembly other than the small group on the judiciary committee or other committee to which the bills are referred.

A member of the state medical committee always appears before the house or senate committee to voice protest or approval of all measures pending, but he refrains from abuse or personalities, aiming fairly to put our opinion in the law-maker's mind, but obviously we are only reaching the members of that particular committee. We, of course, occasionally resort to the able services of Mr. Kelly, our legal advisor and author of the Illinois Medical Practice Act, when the opposition has learned attorneys appear as their speakers before committees.

In addition a digest of the bill pending is drawn up in letter form and sent to each member of the house or senate if the bill is lost by us in committee so that all members may know our point of view. This plan worked splendidly during the last session when the chiropractors succeeded in getting their bill out of committee by the aid of the speaker of the house, the leader of the Democratic faction and the floor leader of the Republicans, a most powerful triumvirate to battle with. However, by careful organization and help from all districts we successfully opposed the bill on the floor of the House, conclusively proving that education of the law-maker is more powerful than political favor of the few leaders in the assembly.

In 1923, despite the active endorsement by the

Federation of Women's Clubs and a large lobby of cultured and brilliant women storming the legislature in one of the largest committee meetings ever held in the State Capitol, we succeeded in defeating the Sheppard-Towner bill by preventing it from getting the required majority in the appropriation committee.

Our lay education committee has functioned so excellently in its organization contacts during the last session that the proponents of the Sheppard-Towner decided it was not possible to pass a federal maternity bill and did not present it.

We are indebted to the *Monthly Bulletin* published by the Federation of State Boards for the many fine and up to the minute articles and court decisions that greatly aid us in our educational campaign in the legislature.

We resort to the same methods in handling all measures relative to state medicine, federal boards and subsidies, as well as the ever growing cultists' propaganda.

In conclusion I desire to quote from a recent letter received from Dr. Olin West, who writes:

"As you well know, many physicians feel that medical legislation has been over done, while another element of the profession is just as thoroughly convinced that our medical societies have been derelict in their duty in this particular. Then there are those of us who sometimes wonder whether our efforts have not been directed in the wrong channel, neglecting fundamental matters which ought in reason to be shown easily to be in the interest of the general public. There can be no doubt, I think, that in some instances there has been a tendency to narrowness of view which has militated against the success of the representative medical profession in its efforts to secure the enactment of constructive legislation designed for popular benefit."

Our legislative committee is heartily in accord with Dr. West's point of view, and we are attempting to correct our entire legislative activity through our lay education committee, because no phase of lay education work is more vital to the medical profession than its legislative contacts. It is hoped that in the further development of the educational work, particular emphasis may be placed through our divisions of publicity and organization contact on reaching the legislators before their election. The direct contacts are invaluable and should under no circumstances be neglected. The indirect contacts—

the use of friendly lay persons and organizations—can be made of much greater value to the organized medical profession than at any time during the past.

DISCUSSION

Dr. E. J. Goodwin, Missouri: I should like to ask Dr. Neal to give us a little of the detail of the organization of the lay education committee in Illinois. I believe one of our strongest possibilities in controlling our medical bills and disposing of them as we think they should be disposed of ought to come through the cooperation of the laymen who are organized, from our standpoint, into a body that looks forward to the protection of the health of the people, without any particular reference to the medical profession or any of the cults.

I have watched, as closely as I could, the American Association for the Advancement of Medicine (that is not the real name, but it is the association that was organized in New York), which is endeavoring to organize and has in mind the organizing of state branches. I should like to know if any of you have followed that up.

Dr. Neal's paper is a most excellent description of the legislative work of a medical organization. All of us have followed some of his plans. As far as I know, we have not reached the extent of his activities. I should like to know a little about how to get this lay organization to cooperate with the medical profession.

Dr. Harold M. Camp, Illinois: Dr. Neal is one of the institutions that the Illinois State Medical Society has reason to be proud of. One of the most valuable things he does, I think, is to issue a weekly bulletin which is circulated throughout the state among the county societies—the officers and those interested in this phase of the work. Dr. Neal places their names on his mailing list, and they receive the bulletin weekly. It contains a synopsis of the bills which have been introduced and comments by Dr. Neal relative to them.

Dr. Neal's work has been largely a one-man job. He refers very graciously to his committee, but I assure you that Dr. Neal has done the work.

I think one of the best phases of his work is the fact that the attitude of the legislators toward him is different from their attitude toward the representatives of other organizations. We have talked to a number of legislators, and not one of them considers Dr. Neal a lobbyist. His methods are different from those of others. He never is antagonistic in his work; he never argues, and if he cannot convince a legislator in an ordinary tone, he lets him alone or goes after him through the family physician or through some other source.

Because of the efforts of Dr. Neal's committee, not one measure was passed at our last session of the legislature of Illinois that our society disapproved. I think that is a record which in all probability never has been equaled in the country, at least not to our knowledge.

Dr. W. G. Ricker, Vermont: I just want to ask Dr. Neal how many medical men are members of the legislature and what influence he finds they are able to exert on the members of the legislature.

Dr. John B. Morrison, New Jersey: I should like to stress two points that Dr. Neal has brought up. One is the care and coolness with which we should enter into the discussions and controversies with the cults relative to medical practice acts or their amendment. We have been shown here the fallacy of heated arguments. It is patent to all of us that it is lost time and lost effort and has only reacted on ourselves when we have entered into such discussions.

In all our correspondence and literature and in our hearings before the legislature, we should impress on the legislature and the cultists that the medical practice act and the amendments involved are passed by the state legislature, not by the physicians; they are passed in the interest of the public health, not in the interest of the physician, and if that stand is taken it robs the cults of a great deal of their argument in the beginning.

I want to stress also the fact that so much use is being made here in the conferences of the Kelly article on the regulation of the physician by law. I believe that that brochure should be a book of common prayer, so to speak, in every state society for the next three or four years.

Dr. Earl Whedon, Wyoming: I want to thank the gentleman for sending these weekly bulletins to the state secretaries. I have found them so valuable that I have had my stenographer make copies and send one each week to our legislative committee while our legislature was in session and even before it was in session. We also supplied every legislator with copies under personal letter, and got acknowledgment from each one, of the Kelly bulletin. I believe it did more in our legislature than anything we ever have done before.

We find that it is very good policy to have two or three doctors go to the legislature. We have the first woman governor the country has seen. Her husband was a man who cooperated splendidly with the medical profession, and we have had the same experience with her. Don't be afraid of the ladies.

Dr. A. T. McCormack, Kentucky: I listened to Dr. Neal's paper with the greatest interest. We have been very fortunate in carrying on just such work as Dr. Neal has recommended. We have done this since 1882, and I can assure you that just such an organization as he has suggested is effective. We never have had a bill pass our legislature that was opposed by the medical association of the state of Kentucky. We have not passed all the legislation that we wanted at the particular time we wanted it, but we have always passed it eventually.

There are two things we have done that I think are of particular interest in this connection. We have organized a Kentucky Public Health Association, an organization that has no dues and has no income, but it consists of all the organizations in Kentucky that have any interest in public health. That includes

the State Bar Association, the Federation of Women's Clubs, the League of Women Voters, the Federation of Labor and every other organization that has any interest in public health, and according to our ideas in Kentucky every organization has such an interest. Representatives of the large church organizations and the presidents and secretaries of each of these organizations are members of the board of directors and receive the bulletin regularly. The bulletin is similar to the one Dr. Neal has suggested. In their resolutions presented each year they support us actively in our work, and when legislative action is up they exert a very powerful influence. Letters are sent from the Kentucky Public Health Association, which functions for that particular purpose and is extremely effective.

Our State Conference of Social Work, of which I happened to be the president for a number of years, functions along the same lines, and analyzes all legislation. The legislative committee, consisting entirely of laymen, sends each legislator the analysis of any proposed legislation that comes from them, quite effectively backing up the thing that we are saying ourselves on the side lines.

The important thing, of course, is first to be right and be working on the right principles, and then when you are doing that there is comparatively little difficulty in getting members of the legislature or anybody else to support you.

The only difficulty we have is that sometimes while our principle has been correct we have been so unfortunate in expressing it that we have created the impression that we were selfish in our attitude instead of the impression that Dr. Neal so beautifully brought out, that we are working for the benefit of the entire people, and whenever we can convince the legislators of that fact we have no difficulty in securing their support, and particularly in securing it in the field of adverse legislation.

In the last legislature of Kentucky, the powerful, controlling influences that the doctor refers to, including our governor, were determined to take over our state health work as a political asset, and in spite of the organization, with every part of the organization working against us, with committees that were unanimous in their adverse reports, they didn't get enough votes when it came on the floor of the house to hardly be worth recording in either the house or the senate. Just the sort of effective work that Dr. Neal is referring to does the job.

I look forward with a great deal of interest to seeing his excellent paper published in the Bulletin so that it may be in the hands of all the officers of the county societies as early as possible, because it will reinforce the things we are already doing well and will give valuable addition to our armamentarium, and in other states it will lay the plan for presenting a plan or organization which will help them to move forward in the great work we are all undertaking.

Dr. C. A. Ray, West Virginia: Taking advantage of the chairman's invitation to the new members, I want to express my appreciation of Dr. Neal's paper.

Having been chairman of the committee on public policy and legislation in our state for a number of years, I appreciate the good points in his article.

In West Virginia our troubles have been that in the legislature there are too many politicians. I must acknowledge that the doctors have been too much in the position of fighters on the offensive. Up to the last session of the legislature we have succeeded in defeating the cult bills, but notwithstanding all of our efforts and all of our fighting qualities, the last session, I am sorry to say, put two members of the chiropractors on our public health council, however, with some restrictions as to their duties.

In view of this fact, we have changed our attitude toward the public. At our last state association meeting, we organized what we call a professional relations committee. This committee selected from the physicians of the state fifty-two doctors who will prepare articles to be published in the newspapers of the state, one each week, couched in such language as the public may understand thoroughly, and considering such questions as they should know. For instance, one man writes an article on heart disease, another on kidney disease, another on arteriosclerosis or high blood pressure, and we are fortunate enough to have a practical newspaper man as our executive secretary. Our plan is to have one of those articles published in every newspaper in the state each Sunday in the year. In that way we will educate the public instead of fight the politicians.

Dr. J. E. Jennings, Brooklyn, N. Y.: I enjoyed hearing Dr. Neal's paper very much indeed. I think a lot of his things ought to go far and wide over the country. I am firmly convinced, indeed, that the way of attacking illegitimate and improper care of the sick is not by any direct villification of the chiropractor or any other cult. Only, in the first place, by persuading the profession itself and, in the second place, by persuading the great lay public interested in welfare work that medical legislation as offered by the profession is for altruistic purposes, can we hope to succeed.

In the state of New York, a bureau has been maintained for some time (and I hope will be continued), devoted to that purpose. It is devoted, in the first place, to the education of the physician, which needs to be carried on much more extensively than at present, and also to the education of the public.

This year the House of Delegates in the state of New York passed a resolution ordering the appointment of a committee to prepare a medical practice act to be offered as the profession's own contribution, in such a form as might be considered necessary. Such an act was prepared and is now under consideration. The legislature does not convene until January 1, but such a bill, it is the hope of the committee who framed it, will present on its surface a direct attempt on the part of the profession to protect the public by simple measures of limiting practice to those prepared for it and, in the second place, attempting to govern the profession itself by ordering the appointment of a commission of medical men to carry on proper

discipline of those who, under the cloak of legality, are preying on the public.

President-Elect Wendell C. Phillips, New York: I ought to say that Dr. Jennings' modesty prevented his saying that he is the chairman of the committee whose work he has been describing. We have great hopes for the future in the improvement which we believe we are inaugurating in relation to the questions of medical legislation in our state.

Dr. Henry O. Reik, New Jersey: I am to express my appreciation of the paper that Dr. Neal presented to us, and to say that we have been following pretty much the same plan in the state of New Jersey. Several points that he mentioned we have found of exceptional value in dealing with the legislature, especially of last year, in getting at the family physician of each member of the legislature and having him see the member and explain the facts concerning the bill that we either favored or proposed.

We also found it of very great advantage to have a member of the profession in the senate. One of the state senators was a member of the medical profession, and he was able to help us very materially.

We also can say that while we did not succeed in getting through all the legislation that we wanted, we were able to prevent the passage of any legislation that the medical profession had decided was objectionable, because inimical to the public welfare.

With regard to the matter of publicity, we are carrying on a campaign at the present time which may be of some interest to you. The executive officer has arranged with one of the radio stations to broadcast once a week a ten minute talk on keeping well. That is a broad title and enables him to talk on almost any subject. Up to the present time we have been preaching the doctrine of the periodic health examination mainly, but we are utilizing it at the same time for demonstrating the relationship which ought to exist between the state medical society and the public.

At the same time that these talks are prepared for the broadcasting station they are mimeographed and sent to all the newspapers in the state, and we have been very much pleased to observe that the most influential papers of the state and a large percentage of all the papers of the state have published those discourses in complete form.

Dr. B. L. Bryant, Maine: I have listened with a great deal of interest to Dr. Neal's paper, but I don't believe any of you have put enough emphasis on the matter of electing to your legislatures your professional men. We have been going through the same fight year in and year out, and we have usually come out half successful, but nine times out of ten we have been licked in our legislative work. This year we have succeeded in electing to the legislature about seven good men from the association. The committee dealing with public relations and legislation went down to the legislature and organized those seven men. The result of their activities in a quiet way in the legislature was that no bills were presented, and it cost us, I believe, about \$5 for legislative activities. I think we got a bill for \$5 for a stenog-

rapher. There were absolutely no bills in, because they were able to go to the source, to the men who were running against us, and convince them then and there that they should not put in those bills.

Dr. C. M. Yater, New Mexico: I wouldn't presume to offer any advice whatever in medical legislation. I came here to get some points in that line mainly. However, I should like to detail a little experience that we had, to show you what we are up against in New Mexico. We are unfortunate, there, in the fact that we have three medical boards. We have one that is supposed to and does regulate the regular profession. There is a chiropractic board and an osteopathic board. Our endeavor during the last three terms of the legislature has been to combine them all in one board. We have been unable to do it so far.

One step that we undertook at our last assembly was that the profession over the state should endeavor to get in touch with every candidate of either branch of the legislature and try to secure his support whatever measure we proposed for the protection of the public. We did that in Roswell. It was not carried out all over the state, however. Our state is very sparsely settled. There are about 300 doctors in the state. At Roswell our local society invited every candidate to hear a statement as to what we wanted to present before the legislature at the next session, and every one pledged himself that he would support what we proposed. When they got over to Santa Fe to the session of the legislature, one of the men that we had elected to the lower house was appointed chairman of the judiciary committee, to which committee our medical bill was referred. We asked this man, who was the chairman of the judiciary committee, to introduce the bill. He had promised to do so and did do it; he introduced the bill, but he wrote right under it, "By request." He might as well not have introduced it at all.

One of the other men elected to the senate had a slight spell of asthma while he was over there and had a chiropractor treat him. That is what we are up against in New Mexico.

I will take great pleasure, when the Bulletin comes out with Dr. Neal's paper in it, in bringing that before our local society and also before our state society, which meets in Albuquerque.

I should like to ask Dr. Neal if he favors a composite board to include osteopaths and chiropractors with the regular medical board.

Dr. R. B. Adams, Nebraska: I should like to ask that Dr. Neal give us some of the details of how he gets the lay part of his organization going. That request has been made already, but I am anxious to get the information, and I repeat it. I have been trying for three or four years in Nebraska to get that, and I don't get it. There was no proposed legislation against us in Nebraska last year, but we didn't get anything constructive.

Dr. L. B. McBrayer, North Carolina: I thought for a long time that I was going to be the only one in this house to get up and confess that our

state is not functioning 100 per cent. on this subject. I am mighty glad, and sorry, too, that I have company as we get farther along the line.

There is one point that has been mentioned that I thought I ought to mention again. It is with respect to the experience in our state in regard to medical men serving in the legislature. The men we want to go to the legislature in our state won't go. I am talking about the doctors. Those we have there do us more harm than good. That has been our experience, with one exception. We did have a doctor in the senate and one in the house that functioned 100 per cent. We have been better off in the legislature since they went, but prior to that time we were afraid for a certain doctor that was in the legislature to be chairman of even the committee on health. The speaker of the house, a short time ago when he was conferred with, said that he had promised that man to make him chairman of the committee on health. He said: "But I'll tell you what I'll do. I'll see that he won't do you any harm. I'll put plenty of laymen on there to take care of him." And he did.

Dr. J. R. Neal, Springfield, Ill.: Later on during this conference it is going to be possible to have the chairman of our lay education committee tell you of the wonderful work that that committee is doing, and I think it would be very much better if it came from the chairman of that committee. When I speak of the chairman of that committee, remember that the business and professional world, as well as the political world, is changing at times, and we are surprised often to find who the chairmen of certain committees may be. I am connected with an insurance committee that had a claim adjuster who always signed the name "B. Hanchy." Several years ago there was a claim rejected by our company signed by "B. Hanchy," and we received a letter from the man whose claim was rejected, saying that the first time he was in Springfield he was going to come up and knock the blankety-blank head off of Mr. Hanchy. Mr. Hanchy happened to be a very beautiful young lady who chose to sign her name "B. Hanchy." When the chairman of our lay education committee is introduced (she always signs her name "B. C. Keller"), please don't expect to see a six foot man, but a very charming young lady.

Dr. Ricker asks as to the number of physicians we have in the legislature, or did have. We had two during the last session, one in the senate and one in the house. They both did excellent work. Unless you can get the type of physician who truly represents organized scientific medicine to go to your legislature, you had better not get merely the man who holds a medical degree and is trying to sell that in a commercial, political way.

In reference to the inquiries about family physicians being used in the local district, that is exactly our idea, and we use it because we hope the family physician can and will convince the legislator that we have no selfish purpose to serve. However, I

have found through bitter experience in some districts that the family physician is not overly tactful at times with the legislators with whom he should be in close contact. We have learned that it is better not to have the family physician chairman of the committee because, after all, legislators are fair and honest, and when they hear the osteopath story, the chiropractic story, and the other stories, they are led to believe, on account of the great numbers of testimonials that they get, that there is something more to those things than we will admit, and therefore he is reticent about talking to his family physician if he is chairman of our committee, for doctors are equally earnest in their desire to show him that it is lack of education, etc.

We find that the family physician sometimes is resorted to in the last hope. We hold him back as a sort of neutral mind. We find that just at the crucial moment a telegram from him coming into the legislature at the time a bill is pending (and probably I have something to do in letting him know just when the crucial time is) in more than one instance has influenced the legislator who was going to vote for a particular measure which we did not approve.

We have found that the family physician is a great help, but he can also be overrated, because he has a professional duty and he sometimes inadvertently promises us that he will do more than he is able to do, and have a false sense of security when we have only the family physician's word that he will see that Representative So-and-So votes right. After the vote is recorded it is too late for excuses.

In Illinois, fortunately, we have but one examining board. Our law, which we passed in 1923, has no reference to boards at all. That is taken care of by what is known as the Civil Administrative Code, in which the director of registration and education is authorized to maintain examining boards for the different professions and trades that are to be licensed. I think there are something like seventeen boards, but there is only one medical board. However, this code does authorize him to add any member of a particular cult necessary to examine that man. So the medical board composed of five physicians gives the basic examination; then there is an osteopath attached to the board who gives the osteopathic examination; there is a chiropractor who gives the chiropractic examination, etc., and the medical men give all the other examinations.

We are fighting for the single board proposition in every legislature. At one time during the last legislature there were thirteen bills aimed at the enlargement of this board to take in the cults in greater proportion and to make chiropractic as well as osteopathic boards.

The question regarding our education is so important and can be told so much better by Miss Keller that I am going to ask your indulgence until some later time in the conference when she may speak.

I will give just one illustration as to how we gained at the last minute, you might say, a change in the

complexion of a situation that looked alarming to us, and, incidentally, to show you how well our educational committee functions at times. This story just came to me yesterday.

Miss Keller happened to be down in the southern part of the state at a meeting where a legislator spoke. He was speaking to a group of doctors. He was speaking in a highly complimentary way because he himself had a good record and had helped physicians during the last two sessions. However, he derided the physicians for not having a greater representation at Springfield. He went on to say that it was on the shoulders of practically one man up there, and I have no doubt that a good many of the physicians in the room thought that was an error. The truth is that that idea was just diametrically opposite ours. That is what we are trying to work this state-wide organization for; we do not want to have a large lobby. The fact is that the lobbyists don't know how to behave when they get to Springfield.

Two years ago we had a lobby come in on us unannounced. They were eighteen very clean and fine-minded physicians who had paid their own expenses to come to Springfield. They walked into my office unannounced and said they had come to change the situation and give me some help. I took them over to the state house, and I was very much interested to know how it was going to be done. I came to find out that they had not set their plans, they had no program, they didn't know themselves what they were going to do. They got to the front door of the senate and started in and were ejected because they didn't allow visitors on that floor. They were told to go to the balcony. In the goodness of my heart I showed them the passages through which some of the chosen few could get in, so we did get on the floor of the senate.

Then they called their senator out and started to talk excitedly to him about a certain bill. He knew nothing about the bill at all. He had not been on the committee considering the bill. He saw the situation at a glance. He said: "I am absolutely for you men 100 per cent., and I will see that that thing doesn't get any further." They went back satisfied that they had done a good day's work. Later, when the bill came up, the senator boldly voted "aye" on the bill.

That is misdirected effort. These physicians can't do good in large bodies unless they are extraordinarily well versed in what they are going to do. We see as high as 3,000 come in a lobby to Springfield on hard roads. We don't believe in big lobbies. We think the work should be done back home.

At this particular meeting, after the representative had spoken of the laxness on the part of the physicians on these lobbies, Miss Keller arose and told him that was exactly what we were trying not to do; we can't worry legislators in the legislative halls with large lobbies and immense bundles of mail from grateful patients.

Our educational work is twofold; we have to educate our physicians as well as the legislators.

My idea of medical legislation is that it is only a means to an end. I disagree, I am sorry to say, with the suggestion made by several of the very able men who have given it a great deal of thought, about electing the physician to the legislature for the purpose of preventing bills of this sort. I feel that that is a weakness on our part. If we have to enter the political field and take the time of men who are capable physicians to serve in the legislative halls in order to stop a thing which is inimical to the public health, we are on the wrong track. However, that is a personal feeling. I am not trying to influence you; it is just my belief that that is not the way to arrive at this situation.

We are placing our entire faith in our method, and the Illinois State Medical Society has backed it up financially. We have raised our dues \$3 just for defraying the expenses of the educational work that we expect to put on. We have had a taste of it; we know it is excellent, we know it will bring results; and I find no one more ready to listen to an unbiased lay opinion than the average legislator.

We find that the average legislator wants the truth, and if we stand around and merely let him feel that we don't want that legislation, we don't want the Sheppard-Towner, we don't want the state control of medical centers, and those things, and if we make those assertions without going to him and reasoning them out with him, without showing him which is the best for the people, we will always be seeking a solution and never obtaining the results we hope to get in our work.

I find most of the legislators are very reasonable to work with. Some of them have locked minds against us and use the silliest sort of excuses for not going along with a doctors' program. I have always attempted to show them it is not a doctors' program, that we are merely trying to do this for the best interests of all.

So far we have been successful. We hope, of course, to be more successful as soon as we are able to get in contact with the lay organizations and stop propaganda for the cults.

There are many misdirected people. Two prominent bankers in Springfield, Ill., came to a member of the legislature and implored him to vote for a certain chiropractic measure merely because one of the chiropractors was a tenant in the bank building and the other a depositor. Neither of them ever used a chiropractor or had ever had one of them in his home. They didn't see that they were asking their legislator to license a man with educational qualifications that were insufficient. After all, I think it is a matter of education, and I do not feel that the solution is going to come by attempting to get physicians to go into the legislative halls so that they might be in the majority or that their influence would be appreciated.—*A. M. A. Bulletin.*

FOREIGN BODIES IN AIR AND FOOD PASSAGES; WITH SPECIAL REFERENCE TO THOSE NOT CASTING X-RAY SHADOWS

E. LEE MYERS, M.D.

ST. LOUIS, MO

Foreign bodies in the air and food passages which show in the x-ray make the diagnosis very easy; however, when an intruder is of such character that the x-ray penetrates and does not show a shadow difficulties are encountered which are apt to delude the practitioner, should he rely too much upon the x-ray.

This is especially so of vegetables, such as the peanut, watermelon seed, potato, bean, pea, corn, etc. The same may be said of chicken bones, fish bones and the like.

Vegetable substances when aspirated into the respiratory tract are unusually dangerous to health, for the reason that the bronchial mucosa is not tolerant to foreign proteins, peanut and watermelon seed being the most virulent, because of their causing an exudate in the larynx, trachea and bronchi which associated with great prostration, toxemia and dyspnea occasionally are misdiagnosed as bronchitis, pneumonia, etc.

Initial Symptoms: Choking and gagging, while expected, do not always occur, but on close questioning the illness may be traced to laughing, crying or talking while eating or holding something in the mouth.

Physical Signs: Invariably the smallest foreign body in the lung will cause diminished expansion on the invaded side. This is so, even to the smallest pin or needle. Hence the first sign to look for is lagging inspiration. Distant breath sounds on one side are heard, whilst posteriorly a few rales are heard. The opposite side usually will show some wetness because the exudate flows over into the uninvaded lung.

The physical signs above mentioned are sometimes accompanied with paroxysms of coughing with dyspneic spells. The occasional wheeze, or a distinct thud or slap occurring during the cough, is followed by a quiet spell. The child at this stage being exhausted from the strenuous respiration caused by the bobbing to and fro of the foreign body.

On percussion there may be a slight tympany or hyperresonance over the area from which distant breath sounds are obtained. What is reason-

able to assume here? A foreign body has plugged up the air-way.

At about this time should an x-ray or fluoroscopic examination be made, a rather unusual phenomenon is seen.

At the end of expiration, one side of the chest seems to be more airy than usual. The diaphragm on that side is flattened and the organs in the mediastinum make an excursion to the opposite side.

Compare this picture with one made on full inspiration. The diaphragm on both sides make an equal excursion, the mediastinal organs (heart, aorta, veins) come into the middle line, and there is little difference in density between the two lungs.

The mechanical explanation is that air on inspiration passes the foreign body, and the lungs inflate normally, but on expiration, the foreign body acts as a ball valve, and consequently the air is imprisoned, which causes the diaphragm to go downward, the mediastinal organs to be pushed to the opposite side, and the lung on which diaphragmatic flattening is noticed, becomes emphysematous, and shows up on the plate as being apparently normal. Errors are made by assuming that the opposite lung is the invaded one because of this unusual airiness.

This phenomenon was first demonstrated by Iglauer of Cincinnati, and later collaborated upon by Manges of Philadelphia, who claims it is a most valuable sign in so-called negative x-ray foreign body work.

A foreign body which straddles the trachea may cause the same condition, but in both lungs, i. e., air getting in, but hard of egress. Manges cites several such cases in the Jackson clinic.

Case 1. Young baby with history of aspirating peanut. X-ray as seen in Fig. 1 shows an unusual airiness on right side. Peanut found on right side by Dr. Geo. E. Hourn and Dr. R. J. Payne. Within twelve hours the usual tracheotomy was necessary to drain the thick pinkish exudate which occurs in the lung in the presence of such irritants as the peanut protein. Recovery.

Case 2. Young child, Dr. U. S. I. Short's case, started coughing immediately while eating peanuts. Six physicians disregarded mother's statement that illness followed eating peanuts. After an interval of eight weeks, the peanut was found by bronchoscopy, but toxemia with lung suppuration thwarted the efforts of the attending physicians. Diagnosed prior to bronchoscopy as bronchitis, pneumonia.

Case 3. Young child 12 mos. History of aspirating

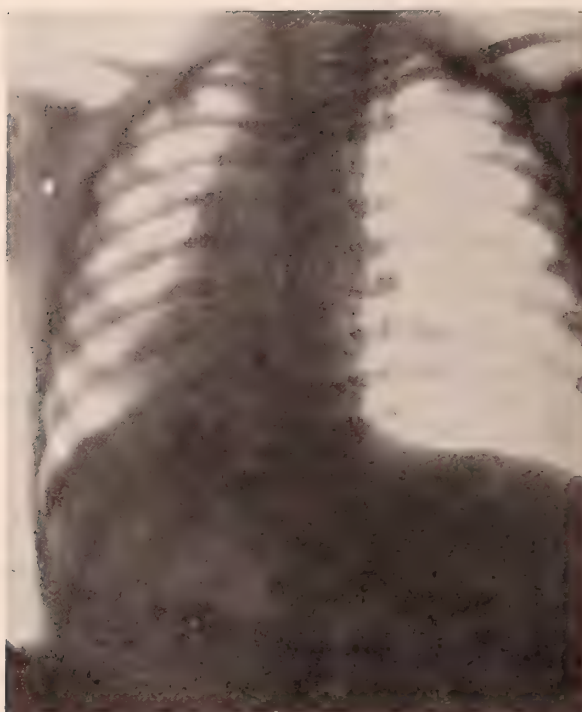


Fig. 1. Iglauer-Manges sign. Peanut case. Drs. Payne and Hourn. Seen in consultation. X-ray taken at end of expiration. Notice flattening of diaphragm; airiness of same side; mediastinal organs (heart aorta, veins) pushed aside.

bean. Toxemia had already developed when bean was removed. Removal encouraged normal respiratory functions. Child's symptom overwhelmed with poison; death.

Case 4. Corn in lung 3 year old child. Occasional wheezes heard on expiration, accompanied with a thud and slap, followed by a quiet spell. Considerable exhaustion being present. Grain of corn removed by bronchoscopy, no tracheotomy necessary after removal. (Fig. 5 in group.)

Case 5. Soup bone in lung of elderly woman, had caused no coughing spells, and practically no untoward symptoms. An unusual emphysema showed up laterally in the x-ray. (Fig. 1—Group.)

Examination by an internist, Dr. Solon Cameron, reported a lagging of the left chest on inspiration and some rales posteriorly, and hyperresonance on the lateral side of chest. Bone removed by bronchoscopy, complete recovery. Lung suppuration had not begun.

ESOPHAGEAL FOREIGN BODIES

When foreign bodies such as the chicken bone and fish bone are swallowed, their consistence being cartilaginous, the x-ray is usually negative. Because of their pointed edges they are dangerous if they remain too long in the same position. The esophagus is unusually intolerant and perforations are easily made. Abscess of the neck, empyema, pneumonia, mediastinal abscess

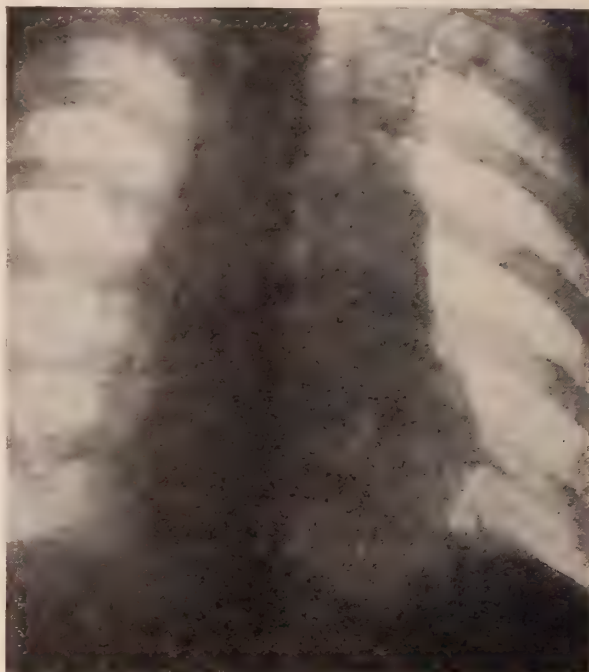
are frequent complications from pointed foreign bodies.

Several diagnostic signs may be of some help in these sort of cases. Patterson's capsule containing bismuth in some form will occasionally hesitate long enough to cast suspicion even though the capsule does not dissolve and coat the intruder. Tucker makes use of the laryngeal box or tracheal tube as a test. The patient is asked to point towards the spot he feels the foreign body, the larynx or trachea is then moved towards his finger. If on swallowing the discomfort or pain is increased it is reasonable to assume that the intruder is there.

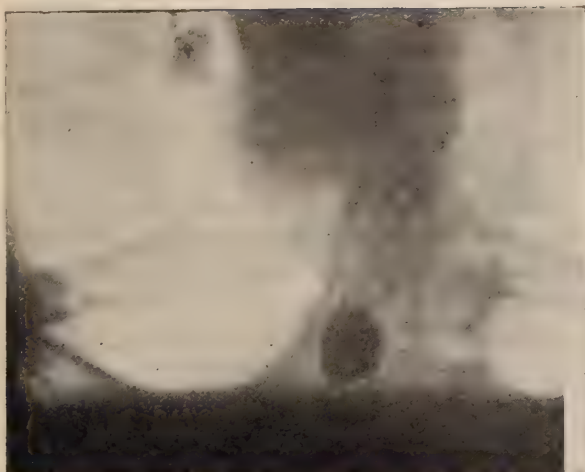
Another sign may prove helpful: Having the patient swallow a bismuth meal, occasionally under the fluoroscope the foreign body may be coated for a few moments while the meal is descending.

In a general way no instrument should be inserted into the food passages with which direct examination is impossible. This applies especially to the bristle probang, coin catcher, stomach tube, buggy whip, etc.

A word might be said as to the use of emetics. No one denies that occasionally a case comes to a successful ending by means other than those



No. 2. Atypical Iglauer-Manges sign. Beef bone in the left bronchus. Notice lateral airiness of left side. The bone was found in left main stem bronchus. Partially stopping up upper lobe division. This explains unusual emphysema.



No. 3. Pork chop bone in esophagus. Shown by barium soaked pledget gauze. (Dr. Ellen Patterson's capsule test. Modification by W. Frank Wilson.) Although foreign body was just between pledget and gauze as seen in x-ray it was negative to numerous x-rays and fluoroscopies-esophageal perforation. Removal of bone by bronchoscopy; recovery.

involving the more precise methods, but as methods of precision are now almost 99 per cent safe in trained hands it is hazardous to recommend other means.

Perforations of the esophagus are apt to occur even when no instrumentation is done. The following symptoms are indicative of such misfortune:

SYMPTOMS OF PERFORATION OF ESOPHAGUS

1. Patient appears very ill, may evidence some shock.
2. Head and neck held in a fixed position to relax muscles.
3. Severe pain and marked tenderness at site of perforation, aggravated by attempts to swallow.
4. Swelling in the tissues surrounding the food passages, may be due to cellulitis, abscess or emphysema.
5. In using the x-ray sometimes the bismuth meal can be seen going outside the esophageal walls.

INDICATIONS FOR EXTERNAL OPERATION (ESOPHAGOTOMY)

Continuous fever, pain, tenderness, infectious swelling, associated with progressive anemia and occasional hemorrhages point with suspicion to a foreign body dangerously retained. If coughing is present, with vomiting a communication between the esophagus and trachea is possible. The bismuth meal will help to rule this out. Foul

smelling breath may be indicative of sloughing esophageal tissues, etc.

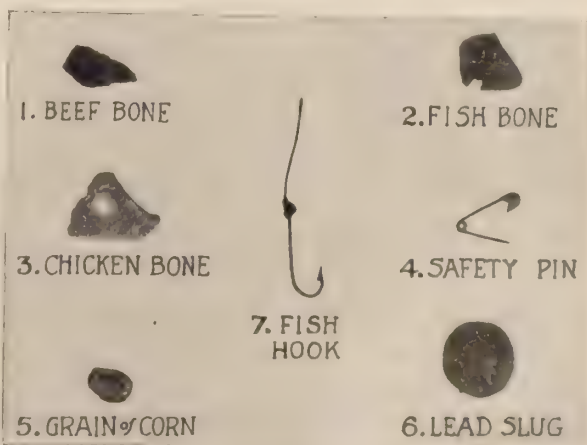
Case 5. Young boy 15 insisted upon "something being in throat." X-ray negative. Removal by esophagoscopy of chicken bone as seen in No. 3 (group).

Case 6. Woman 40 years. Three esophagoscopies failed to show foreign body (No. 2 group picture). Removed fourth tubing. Recovery.

Case 7. Beef bone, impossible to remove without damage to esophagus. While awaiting a special dilating instrument patient developed an emphysema of neck which did not terminate fatally, which is rather unusual, as this sign means perforation. Bone not passed, probably dissolved in stomach.

CONCLUSIONS

1. Negative x-rays when associated with a history of something being aspirated or swallowed, especially in the presence of physical disturbance indicate the proper use of the bronchoscope or esophagoscope.
2. A chest examination, properly made, will correlate in the successful diagnosis of negative x-ray foreign bodies.
3. Too hasty diagnosis of purulent bronchitis, pneumonia, edema of lungs, etc., should not be made. Even failure to find foreign body does not preclude the fact that one does not exist hidden.
4. Persistent discomfort on swallowing, associated with declined physical powers is suspicious of retained esophageal foreign body.
5. Anterior-posterior pictures for esophageal foreign bodies, are apt to hide the foreign body,



No. 1. Seen as reported in cut 2 shows atypical Iglaue-Manges sign.

No. 2. Esophageal foreign body not seen in x-ray.

No. 3. Esophageal foreign body not seen in x-ray.

No. 4. Open safety pin in right lung. Removal by bronchoscopy. X-ray positive.

No. 5. Grain of corn in right lung. X-ray negative.

No. 6. X-ray positive.

No. 7. Fish hook. Removed from esophagus. Dog patient of Dr. A. Darling.

because of density of vertebral column. Quartering of the lateral position will help materially in bringing out an otherwise negative foreign body.

Wall Building.

THE DAILY HOSPITAL CLINIC FOR PRIVATE PATIENTS*

EMMET KEATING, M. D.,
CHICAGO

A long-standing belief in the value, to physicians and their patients, of a clinic in every hospital, for pay as well as for charity patients, prompted me to urge such a measure to the staff of the Norwegian-American Hospital, in 1920. A clinic where no physician in good standing would be barred from presenting his patients, but would be urged to do so. That clinic was established and is a success. It is held daily from 11:00 a. m. to 12:00 o'clock, noon. There is nothing compulsory about the attendance, which ranges from a half dozen physicians to thirty or more. It was established as a necessity for the improvement of physicians in the type of service they are able to render their patients; for specialists as well as for general practitioners.

For years, the general practitioner, in the papers and discussions of medical and surgical gatherings, has been accused, berated and implored. He has not raised a voice either in agreement or protest. Why? He has never had an opportunity. He has not been considered worthy of a place on any of the programs. The specialists have monopolized the field. They are organized and have something definite to say. The general practitioners are not organized and, if they have anything definite to say, they are too modest and retiring to say it.

STANDARDIZATION A FETISH IF CARRIED TOO FAR

Another necessity is now in evidence. A necessity which will shortly be so compelling that the clinic will be a feature of every hospital; a feature as commonplace as a sterilizer for the operating rooms. The pendulum of standardization may be swinging too far; but, as I see it, it is the result of a desire on the part of men of high ideals to force the general practitioner to raise his standards.

The preserving of a certain amount of records pertaining to the daily activities of any hospital is quite right and proper, but, the extent to which it is being carried in some hospitals, which are

trying to meet not high ideals but insane ideals, is appalling. It is a useless tax on human energy and demands a storage space that could be devoted to a better use.

Those physicians, who are more or less constantly engaged in teaching, are forced to keep themselves more nearly in touch with the progress and changes in the art and practice of medicine than is the physician who goes his lonely way without let or hindrance from the prompting or restraining influence of close associates.

It is certain that, whatever division of the practice of medicine he is presenting to graduate or undergraduate students, such work will increase his ability as a physician.

His duties make it necessary for him to be diligent in his study of what time and experience have standardized, and alert to the newer things in diagnosis and treatment, which may or may not survive the test of time.

The presentation of a patient, the argument for the establishment of a diagnosis, the discussion of the pathology, the review of the symptoms, the prognosis, the treatment, and the sequelæ of the disease from which the patient suffers, require the practicing physician to do exactly the same thing as the professors in the medical school. That is, he must carefully reread what has been painstakingly set forth in logical order in the standard text-books. He has the same privilege of supplementing this knowledge with whatever new or revised opinions are to be found in current medical literature.

If any physician sitting in the seat of the scornful says that this is a fine Utopian but impractical idea, impossible of performance, because the busy general practitioner has no time to indulge in a study of this kind, he is admitting that the general practitioner makes no pretense to give his patients the service that they rightly expect him to be able to render.

CONSTANT STUDY REQUISITE

After our initial endeavors in the practice of medicine, there is an alarming tendency to turn our backs completely upon the textbooks which were so energetically studied during our student career, and depend for our progress upon the various medical periodicals, whose articles, of course, take it for granted that our knowledge of what has so long been established is fresh and green.

Unfortunately, unless constantly reviewed, the

*Read before the American Medical Editors' Association, meeting in Chicago, Oct. 25 and 26, 1923.

most profound comprehension of any subject becomes faint and is sooner or later lost from our store of knowledge.

OBJECTIONS TO TEXTBOOKS "AS IS"

As medical editors, it might be interesting for you to hear that many of us question the advisability of the present fashion in textbooks of a large number of cumbersome volumes which contain so much of repetition and padding, and in many cases statements given as facts which are not borne out by actual practice. This shortcoming is partly due to the fact that these volumes are made up of the contributions of men who have specialized in their particular fields, some of them never having had that broad general experience which militate against the danger of narrow views.

As an illustration, I would cite that, in one of our most recent and highly lauded textbooks on medicine, the contagiousness of pneumonia is overemphasized, the writer basing his conclusions upon the great incidence of pneumonia in the army camps of the World War. A year ago, at a meeting of the Physicians' Fellowship Club, this belief was questioned, and some twenty men, whose practice extended over a period of from fifteen to thirty years, were unable to support the author's position. Two or three of those who took part in the discussion recalled that, in one or two instances, pneumonia had attacked a second person in the same family. They were not, however, willing to admit that it was the result of a transmitted infection. Health departments have made pneumonia a reportable disease; have established strict quarantine regulations which work unnecessary financial hardships in cases where hospital patients, occupying wards or semi-private rooms and who, during their stay, contract pneumonia, are compelled to go into private rooms under the care of a special nurse or trust their lives to municipal hospitalization.

TEACHING HELPS DOCTOR TO STUDY

If it were possible for all physicians to be teachers for six to nine months of each year, the public would be better served; but this is not possible. Positions in medical schools are limited. The only opportunity the general practitioner has of availing himself of a similar opportunity is in the daily hospital clinic. It is not meant that he shall appear with the regularity

of the teacher in the medical school, but the daily clinic will give each physician the opportunity to present at least one case per month.

Few men have the initiative to continue their studies when they are not expected to display their wares before their fellows.

Indolence follows hard upon forgetfulness, and the ability to ferret out evidence of departure from the normal, instead of gaining strength from experience and observation, disappears, and the practice of medicine becomes merely the treatment of the patient's voiced complaints.

The old-fashioned family doctor dies hard. Instead of preserving and improving upon his many virtues, his limitations and shortcomings are treasured by his successors, and carping criticism and levity are aimed at those who take and preserve painstaking histories and avail themselves of the many mechanical diagnostic aids that are the everyday working tools of the specialists.

Quantity production and low selling price bring financial reward to the manufacturer and great benefits to the purchasers of automobiles, but this principle, which has brought fame and fortune to one man, and happiness and prosperity to many more, can not be applied to the practice of medicine, if patients are to obtain the service to which they are entitled.

THE PROBLEM OF THE "CHRONICS"

Not many years ago, physicians were so busy treating typhoid fever and other controllable diseases that they had little time or energy to devote to those patients who were not acutely ill. Their attitude towards the ambulatory patient did not stop at indifference, but was one of abhorrence and contempt for the unfortunate people who were known as chronics. If the doctor saw one of them approaching his office, he would hurriedly leave by way of the back door, to evade listening to what he looked upon as dreary and useless complaining.

Now, the doctor is complaining because, preventive medicine and ill-advised charity having deprived him of a large number of those suffering from acute diseases, he finds himself without a practice.

The people whom he ignored and to whom he gave no hope are, as a last resort, visiting the chiropractor, the osteopath, the Christian Scientist. The majority of these people are really ill. It is worth our while, and they are

willing to pay for the time it takes to find out what is the matter with them. These are the patients who demand the most careful study and a training in diagnosis on the part of the physician that is not to be secured in his work of treating acute diseases.

In the care of acute diseases, in the majority of cases, the diagnosis is easily made and the main efforts and thoughts of the physician are towards the proper treatment. Once he has determined what to him seems best, it becomes a matter of routine which does not further tax his mental resources. The greatest strain demanded is the physical one of making house calls. It is the easiest type of practice and is inclined to reduce the general efficiency of the physician who has much of it to do.

The activity and energy displayed by the medical profession in the advancement of preventive medicine has, to a very large extent, curtailed the ravages of the acute infections.

As a source of income, the care of acute diseases is fast vanishing. The greatest prevalence is among the least enlightened and the least able to pay. In twenty years' practice in the city of Chicago, I have not seen a dozen cases of typhoid fever.

THE SPECTER OF STATE MEDICINE

Every right-minded physician rejoices that ways and means have been found to so wonderfully reduce the prevalence of acute diseases, but he deeply resents the increasing tendency of public health departments to engage in the practice of medicine. Too much police power for health departments means state medicine and paternalism. Large appropriations from municipalities give them greater political power and increase burdensome taxation. He resents the activities of charitable agencies, that, in order to keep themselves going, encourage pauperism and secure free medical attention for people who are able to pay. He resents the cupidity of those physicians who do the work for such agencies and violate the ages-long principle that the laborer is worthy of his hire.

There has always been a widespread public opinion that doctors enjoy large incomes. The doctors know better.

PREVENTIVE MEDICINE

How times have changed. Think of the multitude of agencies that are devoting their sole atten-

tion to the conservation of health. It is a sad commentary that a very large number of physicians have not, as yet, realized that the human machine is in constant need of supervision and repair. Neither have they realized that the understanding necessary to such intelligent care means a greater expenditure of time for the individual patient and the use of the laboratory. This means that the patients must pay more than they have ever done for the inefficient service that was formerly rendered. Many general practitioners, with the false notion that only a few people can afford this service, go on in the same old way, scratching the surface and missing the opportunity to restore the patient to health.

In this day of high wages and high cost of living, the individual who cannot work soon becomes a burden upon the community. Restore his health, and he will soon be able, not only to take care of himself, but to pay the physician a just and fair amount. Until more general practitioners understand this, the education of the public will be long delayed. To the public, a doctor is a doctor, and the one who works cheap and does little appeals to them as being just as good as the physician who gives them real service.

IMPORTANCE OF THE TEACHING CLINIC

The clinic in every hospital is the one great teaching force that will raise the standard of every doctor. He will learn that, while he cannot neglect the many things his five senses will be able to tell him, he must back up this information with scientific diagnostic aids.

How shall such a clinic be conducted? Briefly, the matter should be brought before the staff, and they should be made to understand that, unless they are willing to do their part, both as audience and teacher, it cannot be made a success. The staff should elect as Director of the Clinic a man who is capable of arranging programs; who has the persuasive power to get his fellows to present cases, and who is willing to sacrifice his own time for the good of the cause. The success of the clinic, among other things, will necessitate his unfailing attendance during the clinic hour. If it is to be a success he will not be able to absent himself many times. While the main burden of the presentation of subjects and patients should be placed upon the attending and consulting staff, the Director should secure at different times men of prominence who, from

their long and continuous service as teachers in medical schools, are able more brilliantly to set forth the subject to be taught, than is the general practitioner. From these men, the amateurs in teaching will not only learn valuable things in medicine and surgery, but their own teaching ability will be greatly enhanced.

It is the custom at the Norwegian-American Clinic, when the physician has completed his presentation, for the Director of the Clinic to specifically ask each man in the audience to express his views upon the subject. Long speeches are discountenanced. Whatever he has to say must be short and to the point. By this method, distasteful and useless controversies are avoided, and no one is slighted.

In addition to the benefits to the public and the physician, the Daily Hospital Clinic for private patients will banish the old-time belief that only charity cases can be utilized for teaching purposes.

Clinics of this kind will not need the fostering care of state or national organizations to keep them going. Each one will be a complete unit in itself and will give an equal opportunity to each and every physician in that particular community.

2757 Fullerton Ave.

THE PHYSICIANS FELLOWSHIP CLUB

October 5, 1923

DR. JOHN J. PFLOCK, presiding

THE CLOSED HOSPITAL

DR. PFLOCK: I will just say a few words. Namely, the subject is a general one. The question has been precipitated during the summer and in discussing the question I wish you would refrain from any personalities and also from mentioning particular institutions. We do not wish to get in wrong with any person or institution. This is for the general good; we are all going to benefit by the general discussion and we do not wish to hurt the feelings of anyone or hurt any institution by our discussion. No doubt you have wondered why we have not a more definite program, with men picked out for the discussion. Our program for the coming year will be constructive in every way. We will try to follow a constructive policy. We will try to throw away the hammer and get a horn, and not only get it but blow it. I hope you will all help us blow the horn this coming year by being constructive and not destructive.

The first question is, "Is the closed hospital a necessity?" and I will ask Dr. Warren Johnson to tell us what he thinks about it.

DR. WARREN JOHNSON: I was absent at the meeting of the Trustees last night and that is the

reason they put me down to open the discussion. I know absolutely nothing about the subject. I did not even know what we were going to talk about tonight and when I got here Dr. Pflock informed me I was expected to open the discussion. I will open it by saying that I know nothing about the closed hospital.

The thing that brought the subject up, however, was that a few of us were discussing the subject in the corridor of the Norwegian-American Hospital some time this summer. Several of the doctors had gathered together, as is the usual custom when they are through with their work, in the corridor of the hospital, and were talking over the hospital problem. Some of them had been going to certain institutions for years and had been sort of reduced from the ranks, you might say. In other words, upon reorganization of some of the hospitals some of them were left out altogether, after having supported the hospital for years. They had been reduced to a lower place than before and were somewhat dissatisfied about it, so the subject of a closed hospital and an open hospital has been brought up.

I really do not know the definition of a closed hospital. In my own mind I have an idea that a closed hospital is controlled by a small group to the exclusion of all other members of the profession. That is my own idea about it. I do not want you to take it seriously. Somebody else may have a different idea about it, and that is what we want to find out. I cannot enlighten you on the subject at all, but probably some of the other men here have grievances and they can bring out the point and we can discuss the thing and come to some definite conclusion.

DR. J. V. FOWLER: I do not know that I can throw any particular light on the subject. The closed hospital, as I understand it, is a hospital in which special privileges are granted to a select few. In other words, the privileges of the hospital are limited to a certain number of physicians. The closed hospital may be partially or completely closed. It is the practice in some institutions, especially privately owned institutions, to limit the privileges in their hospital to those who are financially interested in the hospital. In other words, if a man owned a hospital, a hospital of his own in which he had put a lot of money and was conducting it for his own special benefit, or if a corporation of doctors are operating a hospital, they, I think, have a perfect right so far as they are concerned and so far as the public is concerned to limit the privileges of that institution to those financially interested.

A public institution, however, an institution which appeals to the public for funds, for charity, is looking out for the welfare, or should look out for the welfare, of the entire community and, inasmuch as they are looking out for the welfare of the community it seems to me that a closed hospital, as we understand it, is out of the question.

Now, going back to the original subject—the definition of a closed hospital, some of our institutions, especially teaching institutions, limit the privileges of their hospitals, especially the ward beds, to a certain

few for teaching purposes. Especially those hospitals connected with teaching institutions and with medical colleges and again other institutions that are not teaching institutions, limit the privileges of their wards to only a select few. Those we might say are closed hospitals in one sense of the word. They are closed so far as the privileges of certain beds are concerned. Again, I might mention that other class also where the privileges of the hospital are limited to only their staff or to a select few physicians. Now then, what is the excuse or what are the reasons that are offered by these institutions for offering special privileges to a certain few and closing their doors to the other physicians? Those that are connected with teaching institutions, those connected with medical colleges, make their excuses on the grounds that certain beds, ward beds, are reserved for those who are teaching medical students. The men who are on the staff have their patients occupy these beds. These beds, as we know, are oftentimes part charity or entirely so, and the patients occupying them are taken before the medical students as clinical cases, or the students are permitted to go into the wards and examine the patients. They are examined over and over again by different students for teaching purposes. That is a perfectly legitimate reason for a closed hospital—closed to the extent that they are. There are those hospitals, however, that limit the privileges of the hospital to only the members of the staff. The reason given is that the patients are treated in a more scientific manner by limiting the hospital to a select few of those who are most efficient and most capable. That possibly is true. The reason they give is probably correct,—that the number of patients who are treated by the physicians who have the privileges of the hospital are better off, because those men see many cases and are, perhaps, more efficient than the rank and file. That is a point I want to make here tonight. The hospital is in a sense an educational institution for the practitioners who avail themselves of the hospitals, their laboratories and so on, their special equipment for making diagnoses and treating patients in a scientific manner. Now then, it stands to reason that the physicians, who have the advantages of the hospital and all this equipment that runs into thousands of dollars, can become more proficient and efficient in the scientific treatment of patients. But when we think of the community as a whole, are those hospitals that are limiting the privileges of their beds to a select few doing the greatest good for the community? I think not, because of the fact that the greatest number, the rank and file of the medical profession, are shut out from these privileges, and they cannot advance—advance in scientific medicine. Therefore the great mass of the people who are treated by the rank and file of the medical profession cannot be served as well when taken as a whole.

Most of this thing of closing hospitals or giving special privileges to a few in my opinion, is based absolutely upon selfishness. It is my opinion that every hospital should be open to every ethical practitioner of medicine, making the one exception that certain

wards or certain parts of the hospital may be set apart entirely for teaching purposes, the teaching of medical students. Some make the excuse that certain beds should be set apart, ward beds, for the teaching of nurses or internes, but it has been my contention that every case in the hospital is a clinical case in the sense that internes and nurses should study that case and the man who has the patient in charge should make it, so far as they are concerned, a clinical case, because the more study and attention an interne gives, of course the better service the patient will have, and if the patient occupies a private room and pays a large sum of money for his services he is entitled to a greater service from a monetary standpoint than one who occupies a ward bed. From a humanitarian standpoint we all know that we must give every patient the very best we have, whether charity, part charity, or private case. So it seems to me that that should be the basis upon which a man is admitted to the hospital, if he is ethical and proficient.

Of course, I do think that hospitals should make certain restrictions. I believe they should demand of a man practicing in a hospital that he attain a certain degree of proficiency. I do not think they should allow any man to come into the hospital and do anything he sees fit to do, especially if he jeopardizes the life of the patient at any time by his inefficiency. Then I think the hospital should step in and say, "Thou shalt not," but to limit the hospital to a certain few I think is based upon selfishness. Take, for instance, the privilege of the ward beds that are granted to a few select men. What does that amount to in dollars and cents? We know the ward bed is maintained, as a rule, at a loss. In other words, if you average up the cost of maintaining a hospital bed you will find that the cost is great and that they make it up in the private rooms. So the privileges of those beds are granted to the very few. Say the expense is \$10.00 a week and the hospital loses \$5.00 a week on every ward bed; that the average cost all through the hospital is \$20.00 or \$15.00, as it may be, and the hospital is donating \$5.00 to \$10.00 a week on every ward bed. If those privileges are granted to only a few men then they have the right of special privileges and the hospital is granting all that money to the few select men. It is a money matter with them because they are putting patients into the wards and of course charging large fees for their own services, so I think the whole thing in that respect is unethical and unjust. So far as the individual hospital is concerned, all of them have certain rules. One differs in one respect from another, but I think the only ethical, fair and square way would be to throw every bed open to every ethical practitioner and let them decide the basis of the standardization. I thank you.

DR. C. F. GOETZINGER: We were requested, I believe, by the President not to be personal and not to mention names of institutions. I do not want to tread on anybody's corns or hurt anybody's feelings. I do not remember any instance in which these institutions were over-particular about not treading on our

corns. I do not see why we could not call a spade a spade.

Now, the subject of closed and open hospitals has been covered pretty well by the other speakers, who have covered it much more efficiently than I can. We must unalterably object to the closed hospital. I do not think it democratic at all and we are living in a democratic age and a democratic country. A closed hospital, as already pointed out, tends to bring in business and we have to speak of it as business. We are not here for the fun of it and we cannot give up all we earn altogether for the benefit of humanity. They have no charity for us. The tendency of closed hospitals of course is to bring business into the hands of a few.

One point has not been brought out that I think should be emphasized and that is the fact that the young men are given no opportunity whatever to advance. What chance have they for advancement? It is all right for the older men who have made their name and made their fame, but what opportunity have the younger men for advancement? If the young man does not advance when the present generation of older and proficient men have passed on where are the efficient and proficient men going to come from if the younger fellow has not advanced and has not worked up to the same point of efficiency? By closing hospitals these men do not have a chance to advance that could be obtained otherwise. It is all in the hands of a few and I believe that is the only point I can recall at the present time which has not already been brought out.

I question, too, the right of any institution that asks and accepts donations from the general public to maintain a closed hospital. In accepting donations from the people they are admitting, I think, that the institution is for the benefit of the general public and in closing that hospital they make it an institution more for the benefit of a few men who are conducting the affairs of the hospital. I believe that the general practitioner should have just as much right to place patients in that hospital as any one and I believe that the general public have a right to go to any hospital which they choose. Of course a hospital that is privately owned and privately maintained is a different proposition. If a physician or a group of physicians maintain a hospital or conduct it out of their own funds, finance it themselves, they have a right to conduct it as they choose.

Most institutions, and one I have in mind particularly which I believe is now a closed hospital, pay no taxes. Why should it not? If closed hospitals are conducted for the benefit of a few why should not those few pay taxes? They do not.

There are probably other points that might be brought up but none occur to me at the present time. I had no discussion prepared and had not anticipated making any remarks but have just uttered the things that came into my mind just now. Some very important points have been brought up and undoubtedly some of the speakers to follow will bring up others.

DR. GEORGE H. SCHROEDER: The question of whether a closed hospital is a necessity or not I believe depends upon what you consider a closed hospital. Dr. Fowler, I think, spoke almost entirely of the restricted hospital. As I understand it the closed hospital is closed to almost everyone but the staff. I do not know of but one or two in Chicago that are closed in that way. Dr. Fowler has brought up the subject of restricting ward beds for teaching and so forth and that is still open to discussion. There is one factor that has not been taken into consideration and that is the economic factor of the hospital. I know of one institution in Chicago where the work is confined entirely to one man. It is a two-building institution; one is restricted and the new one is confined entirely to one man. The real reason for this I believe is that this particular man has loaned a large amount of money to the institution and it is a necessity for him to get it back. There is no question but what an institution can be run much more economically by one or two men.

Personally, I cannot see any excuse for a closed hospital. I can see an excuse for a restricted hospital. I believe every hospital should be open to a man at least once and whether it is open a second or third time will depend upon what he has done when in the hospital the first time. I do believe that a hospital takes more responsibility than merely over the operating room and nurses. I do believe that the hospital assumes the responsibility for proper medical treatment, and if whoever decided against a man's capabilities decides against him, I do not believe that man should be allowed to come back. For this reason the first time the hospital authorities cannot know whether or not a man is capable. If they find that he is not capable, if they find that he has done things or left undone things that he should have done, the next time a patient comes in for that doctor I believe the hospital assumes the responsibility for the treatment just as much as the doctor if it permits him to stay. I believe the hospital is responsible for the proper treatment of the patient just as is the doctor, and I believe they assume the responsibility if they take a patient for a doctor who did not show that he could do the proper thing when he was admitted the first time. In Ohio I believe they go even further than that. The Supreme Court has decided in favor of the patient against the hospital for inefficient work or for something that was done when the doctor was attending the patient. The Supreme Court made the hospital equally responsible with the doctor in the financial part of the case. They consider the doctor an agent of the hospital, just as an intern or a nurse. If the nurse burns a patient with a hot water bag that patient has regress through the hospital. If a doctor brings a patient there and makes a mistake in the treatment or operation the Supreme Court holds that, the doctor being an agent of the hospital, the hospital is equally responsible with the doctor.

There are many things, I believe, in favor of the restricted hospital. My interpretation of the closed hospital is one that admits only doctors on the staff.

My interpretation of the restricted hospital is one that admits the members of the staff and certain selected others, and the open hospital admits everyone. I see no reason for the closed hospital. I see a reason for the restricted hospital and I see no reason why an open hospital should exist.

DR. MARTIN M. RITTER: I have not made a special study of hospitals but have had some experience in the conducting of hospitals and also have some experience with the rules and regulations as formulated by the College of Surgeons, the American Medical Association and the Board of Registration of the State of Illinois. The discussion this evening, as I understand it, is a discussion regarding the benefits of a closed hospital or an open hospital as far as the patient is concerned. We have had a discussion here regarding what the closed hospital or the open hospital means financially or for the reputation of the physician. This I think is not under discussion, according to the program. It certainly is under discussion but I think the intention was not to discuss it.

Doctor Fowler covered the case very well. He gave the reasons why the hospitals should be restricted. I will not give you figures but will say that I was conversant when the hospitals were standardized with some of the rules that have been laid down. Before that time no one knew who was standardizing hospitals,—so many different organizations were working toward that end. The standardization today is accepted by the American Medical Association and the College of Surgeons which forms a basis of standardization which is accepted by the State of Illinois Board of Registration. All of this does not pertain at all to open, closed or restricted hospitals in the sense in which they have been discussed, but lays down the rules upon which they shall be conducted and one of the requisites is first of all the establishment of an executive committee, or board of trustees, and the establishment of the staff. The staff is one of the requisites of a hospital which is recognized in "Class A," and this staff is held responsible for the conduct of the hospital so far as the training and teaching of nurses is concerned, so far as the treating of patients is concerned, so far as the equipment of the laboratories—pathological or chemical—is concerned, and it is also responsible for the way in which records are kept. All these matters that have been spoken of, the matter of who shall operate in the hospital and who shall not, must necessarily be left to the staff, to the Board of Trustees, or to the Executive Committee, not as a matter of choice but as a matter of necessity because the staffs are formed for that purpose and I judge that this standard has been required so that someone will be responsible for the work that is done at the hospital. As Doctor Schroeder said, the Supreme Court of Ohio holds the doctor as an agent of the hospital. I do not think that is accepted in the State of Illinois but common law will accept this—that where the hospital is aware of the inefficiency of an operator and permits this man to operate then they are accessories before and of the crime. If I were conducting a case against a hospital, I would make this

the most valuable argument from the legal standpoint. In consequence, the staff must designate, or the committee or the board of directors have to designate someone to be the judge of a man's capabilities.

I have jotted down a few remarks that have been made—one was that a hospital which does not pay taxes shall therefore be open to the public, that means every doctor; and the same applies to a charity hospital, why should that not be open to every doctor in the city? Could we not suppose that a hospital which asks for charitable contributions from the citizens of the city would feel so much more the responsibility of providing those who are coming under the hospital care with the best obtainable medical care, and that they would therefore be entitled to select the medical staff just as much or more than any other hospital that derives its income from the commercial standpoint from the number of patients they shelter? I believe that could be taken for granted. It is not open for argument. The minute you accept something from the public you are responsible to the public. The fact that the State allows an institution to operate without taxes does not relieve it of all responsibility but places a greater responsibility upon it. On the other hand, the institution is supported by those who can afford to give the money and the patients are entitled to the choicest care.

When we look upon this question from the standpoint of whether a closed hospital is good for the community we must necessarily lose sight of whether it works hardship to individual doctors. I hope there is not a doctor living in Chicago who would wish to work hardship on any physician. There may be some. There may be some—I see some of you have a very sardonic smile when I make this statement, but I do not think any physician would deliberately work hardship to anyone else. He may selfishly do something and thereby indirectly make someone else suffer.

Now, coming back to the staff which we must necessarily have, this staff must inevitably be in charge of hospital affairs. That the public will know who is on the staff, cannot be helped. It is not the staff's fault, certainly not; it cannot be the staff's because the staff is created to look after the doctors who come there, to look after the reports and records and see that they are correct, and the staff is in charge of the interns. In Illinois the year of internship in the hospitals is considered the fifth college year and someone must be responsible to the colleges; otherwise, these interns do not graduate. So, if we look at it in that way we must have restriction in every hospital. There may be one or two which are absolutely closed, but I do not know what you can do about it. There is no law against it. They want certain men to operate there and they select their men.

All young men certainly should have a chance. The trouble is that many young men, and please do not misunderstand me as speaking slightly, may make it necessary for the hospitals to protect themselves against the young man who brings patients into the hospital. Anyone who has anything to do with a hospital knows that you must be eternally on guard. It

requires eternal vigilance. I will cite one case from my own experience, if you please, that will serve as an illustration that a hospital must refuse some people and must be careful who they take in.

A few years ago I was asked by the powers in charge of a hospital to be at the hospital the next morning because a gentleman whom they did not know had sent in a case for a tonsillectomy. I went to the hospital as requested, introduced myself to the gentleman and told him that I would assist him in place of an interne. I did assist him. I stood at one side of the table and he at the other but he did not begin to operate. I asked him if he was ready, handed him a mouth gag, but he did not begin. I handed him a tongue depressor and he laid it down. I asked him again if he was not ready and he said, "Now, let me see * * ." I began to get a little nervous, everything was ready but he would not begin to operate and, to make the story short, he had evidently never seen a tonsillectomy and certainly had never assisted at one. He did not know whether to use a tongue depressor or a forceps to grasp the tonsils and I finally told him that to save time I would take the tonsils out for him. Suppose I had not been there that morning? This is an exact fact—it happened right here in Chicago. I can cite cases of blood transfusions where the doctor jeopardized the patient's life by working for an hour to get the needle into the vein, and finally had to send for a staff man to give the transfusion.

Then comes the question of ethics and the consideration for the doctor! That doctor had no consideration for the patient—he knew he was inefficient. He certainly had never done a transfusion except under the guidance of someone else. Those things bring the necessity for restrictions.

There is another thing: some men are very competent and some are not so competent and they may both be disturbing elements in a hospital, in the treatment of interns, in the treatment of nurses. The hospital has to protect itself against these things and keep up a smooth working machinery. I believe a hospital has a perfect right to restrict against certain men, and to restrict certain beds to be set aside where only a few ward beds are available for the regular staff and the regular attending physicians, but I also believe that no hospital should refuse any legalized, ethical physician the services of the hospital, provided that surgeon or physician is competent to perform the work for which he brings the patient there.

DR. HENRY L. BAKER: I am very much impressed with the good that has already resulted and may result from the Physicians Fellowship Club. I think one of the best things is the discussion of everyday questions that will result in something. I will not take any of your time except to say that there is much to be wished for along the line of hospitals. In fact, I have thought for many years that the deplorable conditions the hospitals were in, in regard to functioning for the best interests of the public, should be remedied. It does seem to me, without being definite or concrete, that there is a lot of work to be done. It

seems that the fact that the medical man is trained to treat the sick and is qualified to treat them—even admitting that there are many who are incompetent and that many things should be regulated—and the fact that the medical men have increased their competency by the requirement of certain laws, makes them stand out as the men who treat the sick. I think the hospitals are away behind. There are not enough. I do not know how it can be done but it seems to me this discussion is very wholesome and that it should result in something. As long as there is a shortage of hospitals and there are medical men with more ambition, some with more money, there will always be a certain coterie of men who will get together in a private enterprise and start a hospital. Naturally, those men will run that hospital the way they think it should be run, plus their own best interests. That is more or less natural. Most of the trouble in the world comes from one of two things: one selfishness and one dishonesty. How it will work out I do not know, but I think there should be more hospitals. Where certain physicians get together and start a hospital naturally the men who put in the money are on the staff, and properly so, and they should give themselves preference even though the hospital is not closed, yet that leaves a lot to be wished for. It is not fair to the public and it seems to me a hospital should be run more like a hotel. I believe everything medical should come under the control of medical men and when it comes to the question of medical men and who shall criticize and say who shall do work in a hospital, I think this should always be done by a committee of medical men. There is too much inclination at present to have lay people, nurses and so on, tell the doctor what is wrong. That is one of the things of the time.

I came here chiefly to listen and I have enjoyed the discussion very much. It seems to me that we are far from a solution of the problem but I think such a meeting as this is along the right line.

DR. ALVIN M. STOBBER: I do not know just what points were brought out in the early part of the meeting and have not a very clear conception as to just how much differentiation is being made between the closed and the restricted hospital. To me they suggest that it might mean trying to keep many patients out of the hospital. To get our patients into the hospitals we must be on the staff. I am on the staff of a few hospitals but not by my asking so I feel privileged and independent and will make my remarks in that same attitude.

All the open hospitals I have had the pleasure of putting patients in were restricted hospitals. What is the proper duty of a closed hospital? Is it to censor the actions of incompetent physicians. If that is the case it shows very conclusively our system of medical education is wrong. We cannot start at the top and eliminate the unfit, at least we cannot do it by setting up a group of men who may be competent but certainly do not represent the last word, whether of surgery or medicine. If we have competent men on the closed hospitals' staff there are dozens around the city in private practice that are much more competent.

It has been my experience to have done considerable morgue work. The morgue table tells the truth about the ones who are competent and those who are not. It gives information as to those who are competent from an operative standpoint. This morgue observation questions the work of men who are now the bright lights in the profession. A doctor when he starts out to practice has to depend, first, upon the education he has received at school and then when he has had hospital experience he has to depend upon that. He is literally dependent upon the information which he picks up from his associates and men who take an interest in him. Suppose we go over in our minds some of the past experiences we have had and there is hardly a man among you but who, thinking back, can remember some terrible mistake made when beginning to practice; perhaps not in operative affairs, but in our judgment. Some surgeons now hold positions on the staff of closed hospitals who have done work which would bar any other man out of that hospital. The element of competition does enter into it. If we try to practice in a community at large we must give that community an opportunity to secure skilled medical men. If a man is barred the privileges of a hospital he has no chance to become skilled. Sooner or later the wise man is going to try to get on the staff of a closed hospital. It does not depend upon his intellect or efficiency; it depends, in my opinion, upon the pull and the finance he can swing. I think that is stating a fact squarely. If it is a matter of pull then a great many are never going to get anywhere and if it is a matter of finance there are many who will never get anywhere. Where, then, is the chance for a man not endowed with money or a pull to assert himself? Most surgeons and medical men have their own clientele, so to speak. They secure those patients by their merit. If they fail and the patients do not find it out they are lucky. Sooner or later the patient concerned is able to discriminate between physicians. This right is denied them when they are taken to a closed hospital. Why not, if they have to go into a hospital, give them the same right they have at home and let them choose the physician or surgeon they desire?

Therefore, if the purpose of the closed hospital is to secure for the patient the best service possible it is an utter failure. If the closed hospital has for its function the ruling out of incompetent men then it would be a grand idea, but the closed hospital in order to rule out a few incompetent ones closes its doors to a great majority of those who are competent and that is a point it seems that should be dwelled upon. In order to keep out, say three men not able to do surgical operations, they are probably keeping out dozens who can do them as well or better than those who stand as censors of this operation. I do not want to be understood as saying there is no necessity for restriction. There is, but men who are not competent to operate find that out when they receive notice not allowing them to operate in the hospitals. That means that they are not coming up to standards which have been set by that hospital. What a great spur that is!

He will try to associate himself with some surgeon to come up to those requirements or will go through some surgical technic courses and then he will not be refused admission to that hospital.

From the medical standpoint: In the hospital, history sheets can be filled out, certain tests can be made which could not be carried out at home. The hospital by admitting physicians who are competent and have a good practice on the outside forces them to do better work by bringing them in. New theories are coming up, new methods of practice, and it is the great majority of physicians who are able to find out just the things which are the most efficient. The men who are in the closed hospitals and satisfied with their own work will never find that out.

DR. BENJAMIN H. BREAKSTONE: I did not hear all of the Chairman's opening remarks. I heard the closing of them that "we are not to hurt anybody." Now, this is not a personal matter. We are not here to hurt anybody. We are here to find out the truth and the truth will not hurt any one who is after it.

The question this evening is the closed hospital and I will try to talk on this subject only; it is made up of three questions. First, is it a necessity? Let me open my remarks by saying it is not necessary at all. It is an evil and I will also say that it is not a necessary evil. The fact is that a hospital is built to take care of the sick people, sick human beings. That is the cry that every hospital makes that goes out to get donations, "We have so many sick people. Help us." If you are going to close hospitals to certain doctors you are going to close them to a great many patients as well, because there are patients who are that loyal to their doctor, and who feel so much confidence in the physician that they have, that they would rather die at home under his care than to go to a hospital and be made to take any doctor the hospital gives them.

We will not mention any names, but we will take New York, Boston, Philadelphia and Baltimore—the hospitals are all closed in those places; there are no open ones. What happens? A doctor is called to see a patient and he is not on the hospital staff, so he cannot take his patient to the hospital, therefore, he keeps him at home. Who suffers? The community. They do not have the proper care. Another reason the closed hospital is a menace is this: Suppose I have a patient that I cannot take care of at home and I am not on the hospital staff. The patient requires a great deal of care and you have to get in a special nurse. You cannot get a nurse for less than \$7.00 a day. How many people can pay \$7.00 a day for a nurse? Suppose you require two special nurses—where are they going to get the money?

Is the closed hospital a necessity? I say no! In Minneapolis the city hospital is open to every physician who has a free patient. Now, a great deal of question has been raised as to what a closed hospital is. There are only two kinds—the closed and open. A restricted hospital is a closed hospital, merely not being closed against everybody, but it is closed against you if you happen to be the particular person affected

by its rules. So, when we speak of an open hospital, it is open, and a closed hospital is either partially closed, or it is entirely closed, but there is only one open hospital. "Restricted" as applied to hospitals, is purely an apologetic word.

The next question is: "Will patients be better served?" I suppose that means in the closed hospital. That is just the point I want to talk about. I have visited, probably, more hospitals than any man in this room. I have been all over the United States, Canada and Mexico, and I have seen a great many hospitals in Europe, and I will say that if there is any place a patient is not well served, it is in a closed hospital. I saw a man in New York and I watched him operate, and he does more herniotomies than any other man in this country, and is at a hospital for crippled and ruptured children, and he does that operation the same today as he did twenty-five years ago. Why? Because he has no competition.

Do you realize that a man like Nicholas Senn was not allowed to operate in one hospital in Chicago? If it were not for the open hospital we would never have heard of Murphy, Steele, Beck, Fuller and the other great lights in Chicago who were given their opportunity in the open hospitals. I remember very well a surgical nurse at the Presbyterian Hospital who had never seen Dr. Murphy operate until he had a private case there, saying, "My! but he does neat work,—much neater than some of our men."

The open hospital gives each one in the profession the opportunity to advance and to fit himself for competition. In New York a man can be a millionaire, and if he is taken to the Vanderbilt Hospital he must be operated upon by a surgeon on the staff of that hospital, regardless of how much he pays. Can you imagine anything like that? Is that sort of thing good for the community? Is the patient served better? Another thing in the open hospital—the more doctors that come in the more patients there are in one room and all these patients have different doctors. They compare notes and the best man is going to win. In the closed hospitals internes and nurses only see a limited number of men working and they believe that they are the only men who know how to do the work and they say to the patient, "Why don't you have Doctor So and So—he does wonderful work? You had better try him."

I am not going into the question as to whom we shall keep out. I say keep no one out who is qualified and has ambition. After we have gone to school, passed the State Board examination and then want to get into a hospital we are asked to pass another, but unfair, examination, and if they want to let you in they do, and if they do not they don't. A hospital is built for the sick people and the hospital should be a hotel where sick people go and can be taken care of and have any doctor they want. If that doctor does not make good there are plenty of other people in the hospital who are going to tell the patient that he is not getting along well and that he had better have another doctor. A closed hospital is an adver-

tising scheme for the men who are working in it and that is all that it is. It is not for the public.

"Will it hinder the economic and scientific progress of the physicians who are not on the staff?" Let me tell you the open hospital is the greatest stimulus for scientific progress that we have. The open hospital is the place where a man of ambition can come in and work, and other men who are working there will oversee his work and he has either got to come up to them or else fall by the wayside.

What happens if the hospital is closed? Are you aware of the fact that if all the hospitals should be closed here as they are in New York the same thing would happen here in the treatment of the patients? They would be treated at home. If this happens then nobody knows whether these patients were treated right or not. Nobody does in Chicago.

There are many things you can talk about, but let me conclude that the only progress we can ever make is in opening our hospitals. If every hospital is open the doctors can meet together and talk about their cases, and if they have a case that is not getting along very well they can discuss it with the other doctors who are always glad to help in any way they can. Some doctors will neglect matters, but I am not going to give any regular advice about that, or about ethics. Ethics is a wonderful word out in the world—but how in the world a man who is on the staff of a closed hospital can speak of ethics, I don't know. Because of ethics, as a member of the staff of a closed hospital he becomes a robber, a thief. He will take your case because it comes through the hospital and how such a staff man can talk about ethics I don't know. I will say this much for the open hospital: It is a place where competent men can advance according to their individual ability. The closed hospital is closed against these men and gives incompetent men a chance to do work whether they can or not simply because he has no competition. Is a man on a closed hospital staff more capable because he is appointed by a friendly, "Board of Directors" without an examination and without regard as to his ability?

DR. PETRA M. DAHL: I believe the tendency in medicine the world over is toward group practice of the type represented by the Heart Clinics in this city and the East.

The closed hospital is likewise operated for the benefit of a few physicians and surgeons, the purpose being solely to advertise these same practitioners, and I agree fully with Dr. Breakstone on this point.

I do not believe that a position on a hospital staff bespeaks either competency or its lack.

The closed hospital is a monument to the arrogant selfishness of a number of doctors who, like the rank and file outside of such hospitals, contribute their quota of mistakes and blunders in medical and surgical diagnosis and therapy.

Finally, it gives evidence that the oath of Hippocrates with its ideals of conduct of physicians towards each other and their kin is in the discard.

DR. CHARLES E. M. FISCHER: I have not much to do with hospitals these days, but when I was in

general practice on the West side, I had to do with most of them. I certainly think a closed hospital is not compatible with medical ethics. I was called one day to take care of an old man who had been hit by a car on Robey St. I found him sitting on the edge of the sidewalk. We took him home and then found he needed more care than he could get at home. We also needed an X-ray examination, to confirm a possible skull fracture. He was an old fellow who had lived longer than the family wanted him to, and they were glad to have him taken to the hospital, but they wanted him at a certain hospital that was convenient and asked me if it would be all right to take him there. I told them that so far as I was concerned it was all right. They put him in an ambulance and took him over, but before they could get him unloaded, they were met at the door by some one connected with the hospital who asked for money, and they found that they did not have quite enough to pay in advance. The next question was—"Who is your doctor?" "Dr. Fischer." Then they were told, "I am sorry but if you had one of our staff men we could take you in on credit." There Dr. Fischer got a blow. Certainly, it would be better to get a man on the staff so that they could defer payment until it was convenient. However, some one happened to be around who produced the necessary dollars and I treated the case,—and that is a sample of the experiences you are likely to have when you go into a closed hospital.

DR. JOHN E. KOONS: I believe in the open hospital. The points brought up here tonight are well taken. Sometimes we have a patient who would like us to operate but wants to go to a certain hospital. I recently had a call to a certain hospital, but they told me that I would have to have one of the staff men present before I could operate. I happened to know one of the staff men and I asked him to come and help me, which he did, and everything was all right. There is just one point—this nurse knew that I had been connected with the hospital in the past and had been in the operating room then. I asked her why I could not operate without calling in a staff man, and she said that it was a rule of the hospital. This showed conclusively that some one had made a set of rules as to who could operate at that hospital since I had been there in the past.

DR. ARTHUR H. R. KRUEGER: A great deal has been said tonight and a great deal of hedging has been done. Dr. Breakstone struck the nail on the head four square as to ability and how it is acquired. Take, for instance, the County Hospital. No one can object to that because the special staff that has been acquired there has been formed through special examination, which is proper and fair. Any one who has obtained a position on that staff probably knows something but it does not determine his fitness to *practice* medicine or surgery or obstetrics. So far almost everything has been said along the line of surgery. I think not surgery only should be considered, for obstetrics and medicine are just as important. These men have taken a special examination, some have had special experience, some have not. Those

who have these desirable positions get much experience and prestige attending these patients at the expense of the other medical men who are not on the staff and miss interesting clinical material, simply because the hospital is not open to the profession at large. How about other hospitals? The man who is judged the most competent on the staff is usually the one who brings in the most patients, the one who brings in the most financially. Ability is not always the determining factor. I think Dr. Goldspohn, at the Chicago Medical Society, on one occasion, said he was surprised to see the good work done by some men who came into his hospital. Many of us would be surprised if we had an opportunity to see many men operate. How can any one demonstrate his ability if barred from the hospital, which supposedly is the work-shop of the physician?

So far as medical education is concerned, if the physicians are so poorly educated as has been asserted here tonight I think everyone of the teaching staff of our medical colleges should be indicted and put in jail for putting out such bad material. Furthermore, the State Board of Health should be indicted and put there for allowing them to get through. It would not be well for us to admit that we got a poor education, and our loyalty to our colleges will not let us admit that. As to the legal responsibility, who would be the first to be sued—the doctor or the hospital? Every time the doctor. How about the physician or the assistant who helps him? Every time I have known of such a case the man who operated was sued and held responsible.

Is the hospital supposed to assume the qualities and functions of the State Board of Health? I say emphatically "no." The State Board has given us our licenses, and if we cannot make good we eliminate ourselves by our inefficiency. That does not need any proof. Those who are in these advantageous positions where they can exclude whom they wish to exclude will continue to increase their prestige and their influence. After all, medicine is not a mere science—it is an art.

As far as the number of hospitals is concerned, the statement has been made that there are not enough. Undoubtedly this is true and still that is an open question. As you all know, many of our new men go into the country towns and start their own hospitals, and they do this here in Chicago. They do obstetrics and surgery and medicine, and these hospitals are not standardized because they are privately owned and the doctor is the whole authority in these hospitals. One can go thirty to fifty miles out of Chicago and see just as good work done there as anywhere in the city. The closed hospital did not perfect these men.

There are many points that could be brought out, but I do not wish to take too much time. Who is to determine whether the physician has done right or wrong in the hospital? I know of one case where the patient was the sister of a dear friend of mine—a doctor. She had a fibroid of the uterus. Everything went well until the third or fourth day. My friend

went into the room and noticed that his sister was breathing very rapidly; that she was a little cyanotic and spitting a little blood. He went to the operating surgeon and asked, "How is my sister getting along?" "Absolutely fine!" "How about the temperature and pulse, I am worried," my friend said, but was told not to worry, that there was nothing wrong. He examined his sister and found a fully developed pneumonia. She continued to get worse and worse and finally died, and even though the attention of the surgeon was called to her condition she got nothing in the way of treatment but normal salt solution in the arm. If that is treatment for pneumonia I will say that it is worse than any surgical attempt by a tyro could be. This occurred in a closed hospital.

DR. CHARLES E. SCHARF: You have heard many statements about the closed hospital, and from many different angles. We have heard some excuses for a restricted hospital, which I think is just a camouflage name for a closed hospital. If a hospital is restricted so only certain men may use it, and I do not happen to be one of the privileged ones, it is closed as far as I am concerned, regardless of whether they call it closed or restricted.

Many men who are not crippled in the brain nor hand are capable of becoming good surgeons, if only given a chance by the hospitals or the people that control them. How are they to get their experience? Who will take the older fellow's place when they die off? Are the men that are in back of the closed hospitals especially and exclusively endowed with the ability to do surgery? To me it looks as if they don't want you to learn, so you keep on calling on them. I think it is plain every day selfishness.

Two years ago I went to a hospital in another part of the city, and as I was not known to them, I was told that a staff man had to be present at the operation. Incidentally, I had to split the fee with him. A few weeks later I took another patient to the same hospital for operation, and thought that having seen me operate, I would have no interference. Well, some how or other I got my patient in all right, but when I came to the operating room the same surgical nurse asked me if I was going to have the same staff man present. I told her "no," that the last time she saw that I operated all right and that the patient got a good result. She practically stated that inasmuch as he assisted me last time I would have to have him again. I insisted that I was capable; that I had him only to satisfy their demands. She replied: "You may be capable, I don't know; I am not the one to judge; your name is not on the list of those permitted to do their own surgery." Rather than fall for their scheme I took my patient out of that hospital.

I am satisfied that one becomes proficient in surgery only by doing; by having the responsibility thrown on your own shoulders. The small doctor—that is, one without a big reputation, or one who is not "in right" at a particular hospital is being everlastingly supervised and dictated to by nurses and other lay people about the institution.

If this trouble of getting patients into a hospital

where I can do my own work keeps on, or grows worse, I will treat my patients at home. Who will supervise or dictate to me then? Nobody.

DR. LUCIUS G. ZEUCH: Dr. Fowler went over the subject pretty thoroughly in regard to the abuses that come up in a closed hospital. I think we were the only two who stood against the closed hospital in one institution we were both connected with. We were decidedly against it, but were overruled. A closed hospital creates an oligarchy. The public takes these people at their word; that they are the best men there are; they are the head physicians and surgeons and, consequently, the public flocks to them. For that reason I think it is not well to have a closed hospital. But I think we have a great weapon against the closed hospital. I believe it would be a good thing to boycott these institutions; not to refer them any work; not to support them, and if possible seek a place elsewhere to put your patients. I think that is our most effective weapon, and if they have a lot of beds with no patients in them they will soon come to their senses and give the practitioners their proper place. I believe there should be supervision of the operator and the man who practices there, but I do not know who should be the censor. Shall it be the nurses in the operating room, the interns, or the trustees of the hospital? No. I think it should be the physicians themselves who should judge of other physicians as to whether a man is taking too much time in his work or doing the proper thing. The great trouble is the number of men who wish to operate and the few hours there are in the morning in which to operate. Consequently, those who are brilliant and operate fast get the preference and the others do not get the room. I think that is not right for it keeps back the ones who are trying to get to the front, and even if they do take fifteen or twenty minutes longer than the skilled operator, they should not be shoved into the background. We are not supposed to mention any special hospitals but I think the only thing we can do is to practice the boycotting and get the neglected doctors into other institutions where they will be welcome.

DR. BENJAMIN H. BREAKSTONE: The legal responsibility of the hospital has been brought up in the discussion right now that legal responsibility is established between the patient and the physician rather than between the hospital and the patient. Even if you pay \$50.00 a day to an endowed or eleemosynary hospital you cannot sue that hospital for anything. A private hospital is liable for maltreatment, personal injury, etc. Isolated cases such as was mentioned, regarding restriction, do not make any difference for this reason, when we speak of an open hospital we are not going to allow men absolutely incompetent to come in for the hospital has a reputation to maintain as well as legal responsibility (if it be a private hospital). These men will be singled out, not only by the hospital but by their own patients, because they do not make good. Properly conducted hospitals have good surgical nurses, and a man who has any ability at all and who is operating, does not have to ask for anything. He is handed a knife—he has to use it;

he is handed a tongue depressor and he has to use it, and if he is handed a tonsil forceps he has to use it. If a sponge is left in the belly that is poor surgical technic. We can cite isolated cases if we take the time. The question is, is the average capable, honest doctor, who has spent years working and studying, going out to do rotten work? If he is, he is not making it his life work, and therefore he is either going to make good or the process of competition is going to weed him out.

DR. GEORGE H. SCHROEDER: It seems to me there is a great deal of misunderstanding about what is a restricted and closed hospital. Dr. Breakstone classed them as closed, restricted and wide open. I think we must take into consideration the things mentioned by Dr. Ritter about the man who came to the hospital to do a tonsillectomy and did not know whether to use a tongue depressor or a forceps to grasp the tonsil. Shall he be allowed to come in the next day and do a tonsillectomy? That is a closed hospital. Several months ago a man was operating and the sponge count was incorrect before the belly was closed up. The nurse called his attention to the missing sponge and that man said that his "training precluded the possibility of his leaving the sponge in the abdomen," and he refused to look for it. Five days later he removed the sponge. Two days later he put in catheter drainage, but in spite of this the patient died. Shall he be allowed to come back and do another operation? That is restriction. I do not think one should mince words about a partially closed, or restricted or wide open, as to what we shall call it. It is not the question, I believe, as a general proposition to keep men out who are competent. As a general proposition I do not think it is the idea to keep men out who are competent in most places, I will not say in all, but I still maintain and do believe that the incident cited by Dr. Ritter and the one just cited by me furnished justification for the hospital to keep such men out and to keep them from coming back and, leaving out the legal responsibility, there is a moral responsibility that the hospital should assume to the patient who is admitted. They should not allow that same condition to go on.

DR. HARRY NOSKIN: I think the incident brought out about the doctor leaving the sponge in the abdomen and the doctor not knowing whether to use a forceps or a tongue depressor in the tonsillectomy is ridiculous. Any student who leaves school has been taught the use of a tongue depressor.

The thing is that all the hospitals will be closed to you unless you wake up. You will be facing something awful. You will not be able to take care of your patients at all and it is up to you to find out a remedy for the existing state of affairs. None of you general practitioners came out and said a word about it. You let the surgeons come out and state things but not a word that would be beneficial to you. Why do you not come out and state something? Would I be justified in coming out and building a hospital for the Northwest Side physicians? You can do it as

well as anyone and I think you should come out and take care of it.

DR. PFLOCK: The doctor should own, operate and control the workshop which belongs to him. How do you expect a lay board of trustees, or a lay member, to know the wants and needs of a hospital? That is up to the doctors and as soon as you wake up to the fact that you are the one who should own it and control it you meet the question of the closed hospital. They say the hospitals do not pay. Don't let them deceive you. They do pay.

I wish to thank those who have taken part in the discussion of this subject. It has been most interesting and I think we all have learned and profited by it. There are several points that should, perhaps, have been brought out but the things I said in the beginning, that we did not wish to hurt any individual or any institution, were wisely laid down by the Board of Trustees because we did not wish anyone to come here who had an axe to grind, and we want it understood that this is for the good of the general public. Anything that is good for the general public is good for the doctor and anything that is bad for the general public is bad for the doctor, and I think if we follow these rules we will get somewhere. I thank you all.

AURAL AUSCULTATION

SOL ROSENBLATT, M. D.

CHICAGO

In treating the middle ear and eustachian tube it is the common practice for the otologist to listen to any movement of the patient's drum membrane by means of a rubber tube with suitable ear-tips, one end of which is inserted into the patient's external auditory meatus, and the other end into the physician's meatus. When the physician is thus listening while treating the patient, and moving about more or less, using both hands, the hard rubber tip in the physician's external auditory meatus does not always "stay put," even though forced in uncomfortably tight, and occasionally awkward interruptions of the treatment result. This can be easily obviated. Almost anyone has lying about the discarded ear-pieces of the Shepard style of stethoscope, or can pick it up for a song from his instrument house; such binaural sound receiver, which is comfortably self-retaining because of the metallic spring that holds the two ear-tips in place, is substituted for the hard rubber tip at the physician's end of the tube, being connected therewith by rubber tubing attached to a "T" or a "Y" of either glass or metal. This arrangement has not only the advantage of being both comfortable and firmly retained in position, but also the added advan-

tage of employing both ears in listening to the patient's drum, and shutting out external noises. In short, this arrangement might be said to prac-

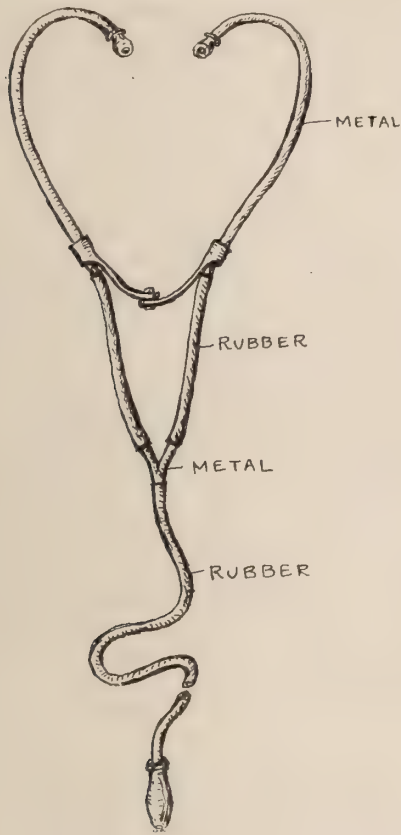


Fig. 1. Modified stethoscope for use in otology.

tically apply the modern stethoscope in a modified form to otologic use, in place of the plain tube with one hard rubber tip at each end.

30 N. Michigan Ave.

"GOOD NEWS SUPPRESSED"

The above quotation was gleaned from an editorial in the *Saturday Evening Post* for January 30, 1926, and is full of many good things, as well as slurring over many of the things done by the medical profession and giving them scant praise where much praise is due. The first criticism the *Post* has to offer is "the science of medicine, whether because of or in spite of its abundant store of Greek and Latin jaw-breakers, is, as far as the laymen are concerned the most tongue-tied of all the learned professions." This is very true, and to listen to the average doctor reading a paper before a medical society, even some of his hearers are nonplussed as to what he actually means.

It is further suggested in the criticism that doctors use too big words and fail to clear up situations which might be understood by the lay people. They say but little, leave their patients in doubt, perhaps impressed

with ponderosity, but not always won over; that all of our physicians, surgeons, and health officers are full of important information which they are anxious to get before the public, but for the lack of simple English in which to get it over, the whole thing falls flat. However, it is announced that a book is to be published on psychiatry and in such simple language that anyone can understand. Now, if the psychiatrist can put a thing like this over why can't the doctors, surgeons, and public-health men do the same thing, as they have a much simpler text to work from?

The *Post* goes so far as to say that because of the inaccessibility of large bodies of readers, to get an accurate statement in plain and readable form is costing thousands on thousands of American lives each year. With this we must take issue. It seems hardly possible to deny that in this day and age, unless it be in the East where they are still more or less hidebound, the doctor and patient really get along well together; and the physician of today, if he has had any experience, is very apt to explain things very definitely and orderly, so that the patient, or the family of the patient, may understand what he is dealing with. But in some parts of the country, perhaps, where the East, especially, has not learned the broadminded prairie scope of the Middlewest, they may have a good deal of difficulty. It has been confessed that men from the East who come to the Middlewest to attend brilliant medical society clinics, say like the clinical meetings of the General Interstate Graduate Assembly, are amazed at the ease with which our clinical material is used and demonstrated. The fact that these associations work from early in the morning until late at night is something that the average New Yorker would abhor were he not caught by the enthusiasm and interest of his co-workers and his enthusiastic audience.

When the man who wrote the editorial in the *Post* tells us that medicine and surgery of today are a tragedy he is not altogether careful about his choice of words or he may fall under the same fault that he deplors in the doctor, that is, a lack of plain speaking. And when he suggests that the economic toll exacted by needless death and disability runs into billions of dollars he certainly is overstepping his mark. We would like to suggest that Dr. Peck invite this man to be present at one of the thrilling meetings to be held next fall in Cleveland, Ohio; it would change his mind greatly. It is quite true that the commonplace things are much neglected, but they are neglected by the people, not by the physicians or surgeons who investigate coughs, look at eyes, ears, noses, throats, and teeth, for they cannot possibly prevent the neglect of the patient when he simply refuses his opportunities. True, there is some justification in the fact that a good many things are overlooked and a good many doctors are slipshod, in saying that tumors of all kinds, including adenoids, will continue to grow because the doctor simply says, "Never mind, they will disappear."

Our critic also speaks of indigestion, for the most part avoidable, as having become our national disease. I wonder if he knows anything about the subject at

all. He saws we brutalize our hearts, kidneys, lungs, and nervous system, which is probably true. Perhaps we do, but we do it perforce sometimes because we must and we can't regulate our own lives or our own environment sufficiently well to take time to attend to what may be coming to us. In this the public is greatly aided in its neglectful manner by the various cults of all kinds, including the Christian Scientists and Chiropractors and all the midway things between the two extremes. Attention is drawn, too, toward the lack of periodical medical examinations. That is a matter which has been taken up by the profession for the last few years, and it is safe to assume that more people have periodic examinations now than ever before.

A fling is taken at the handicap of the medical profession in their attitude toward the lay press. That is being gradually corrected, though not in New York, but in Minnesota. In most of our societies and even in our adjoining state societies we have publicity committees which give much information to the newspapers, which have kindly reciprocated in publishing what may be either unintentional errors or errors of misunderstanding. The American Medical Association, of course, has tried in every way to act as a publicity instrument for the benefit of the people all over the United States, and if one picks up a *Journal of the American Medical Association* or reads the innumerable books published by the Association for the benefit of the people it will be seen that this criticism has no point. It is barely possible, too, that the newspapers are not willing to print as much as the medical profession is able to offer because of their varied readers and their hesitancy in boosting medical men and thereby injuring the sensitive feelings of the cultists. It has been demonstrated time and again that the medical profession are devoting more time to the elimination and cure of disease, both for and without pay, than ever before. And if one consults with physicians in various parts of the country one finds that the usual complaint is that their incomes have receded rather than increased.

It is well for the *Post* to take this matter up, but it ought to give all the facts and not criticize the medical profession too freely.

CIGARETTE SMOKE BAD FOR YOUNG RABBITS

New Haven, Conn.—Cigarette smoke is "bad medicine" for the young, at least for young rabbits, according to results of experiments by Prof. W. J. Baumgartner of the University of Kansas, stated in a paper presented before the meeting of the American Society of Zoologists.

Forty-six young rabbits were divided into two groups, one lot of which were allowed to live normal lives, while the other had cigarette smoke blown at them for three half-hour periods each day.

"The smoke rabbits," reports Prof. Baumgartner, "always showed signs of stupor, and sometimes

paroxysms during and immediately after the administration of the smoke.

"Weekly weighings showed that the smoked rabbits failed to gain in weight as rapidly as the normals. Smoked rabbits neglected markedly to care for their fur and presented an unkempt, dirty appearance. The smoked individuals were lethargic and inactive, playing, digging or fighting but little as compared with the normals. Sexual activity was evidenced from two to three weeks later."

\$23,000,000 SPENT FOR WELFARE WORK IN YEAR, REPORT REVEALS

Two hundred sixty-three charitable organizations in Chicago, indorsed by the subscriptions investigating committee of the Chicago Association of Commerce, spent approximately \$23,000,000 for welfare work in this city during the fiscal year ending Nov. 30, 1925, according to a bulletin issued by the committee.

Home finding agencies, homes for children and for aged people, day nurseries, reform and civic betterment organizations, relief and benevolent organizations, social settlements, and medical charities such as hospitals, dispensaries, and sanitariums were maintained and operated. The list does not include the work of churches or religious institutions.

The largest sum expended by an individual organization was that paid out by the Y. M. C. A., listed at \$3,124,553.

IT ISN'T YOUR TOWN—IT'S YOU

If you want to live in the kind of a town

That's the kind of a town you like;

You needn't slip your clothes in a grip

And start on a long, long hike.

You'll find elsewhere what you left behind,

For there's nothing that's really new.

It's a knock at yourself when you knock your town;

It isn't your town—it's you.

Real towns are not made by men afraid

Lest somebody else gets ahead.

When everybody works and nobody shirks,

You raise a town from the dead.

And if, while you're making your stake,

Your neighbor can make one, too,

Your town will be what you want to see—

It isn't your town—it's you.

—R. W. Glover.

A FUNNY WORLD

This is a funny world in which we live. When two trains come together, that is called a collision, but when two kids come together, we call them twins—and both are disasters.

—The Angier Idea.

Society Proceedings

ADAMS COUNTY

Regular Meeting, February 8, 1926

This meeting was held at the Elks' Club and was called to order by the President at 8:15 P. M. Thirty-three members and 4 visitors were present. A letter from Mr. R. R. Swaynie asking for advice as to how he should conduct his bath system was read and upon a motion was ordered placed on file. The Secretary reported that several letters had been received in regard to the W. C. U. Bldg., which were to the effect that this organization was continuing to send out letters which the society objected to at the December meeting. A motion was carried that the letters be placed on file. Dr. W. A. Sims was elected to membership in the society. A suggestion by Dr. Stevenson that it is desirable that permanent quarters for the Adams County Medical Society to hold its meetings be secured and that such a place could also house our library was referred to the Trustees and Library Committee for investigation and report. A letter was read from the editor of the ILLINOIS MEDICAL JOURNAL to the effect that every effort was being made to extend the Sheppard-Towner Maternity Act for two years. Dr. Center, Chairman of the Public Health Committee, had made protest in regard to this bill in the name of the society to our Congressman and a letter from our Representative was read stating that he did not find any such bill at present before Congress. Inasmuch as the reply was not satisfactory, Dr. Beirne made a motion that the matter be referred back to the Public Health Committee of the society for further action. Seconded and carried. Dr. J. W. H. Pollard spoke upon the desirability of the Adams County Medical Society sponsoring a health survey of the county, to be made by the Illinois State Department of Health. Dr. Center made a motion that the following resolution be adopted, which was duly seconded.

"Be It Resolved: That the Adams County Medical Society endorse and recommend the desire of the Illinois State Board of Health in its wishes to clarify the health situation in the various leading cities of the State, providing that for the city of Quincy and its environs, the survey which is contemplated and the subsequent report be placed in the hands and under the control of Dr. J. W. H. Pollard, whose experience and first hand knowledge of our local conditions would preclude the possible errors which might be made by other investigators, inspectors or other agents not familiar with this locality."

Dr. Koch made a motion that the following amendment to the motion be included in the resolution, which was duly seconded:

"It is requested that the Illinois State Board of Health work in cooperation with the Public Health and Legislative Committee of the Adams County Medical Society in this survey."

Both the motion and the amendment were carried. A letter of resignation from active membership in the society from Dr. A. D. Bates was read. Dr. Koch

made a motion that the resignation be accepted and that Dr. Bates be made an Honorary Member of the society. Seconded and carried.

The scientific program consisted of a symposium on Exophthalmic Goiter arranged by O. F. Shulian, and was as follows:

History and Etiology,—R. A. Harris.

Symptomatology,—H. J. Jurgens.

Pathology,—Frank Cohen.

Exophthalmic Goiter in Children,—H. S. Maupin.

Diagnosis and Differential Diagnosis,—A. H. Bitter.

Medical Treatment,—J. F. Ross.

Radiation Treatment,—Harold Swanberg.

Anesthesia,—C. A. Wells.

Surgical Treatment,—O. F. Shulian.

Post-Operative Complications,—J. A. Koch.

Post-Operative Treatment,—Ralph McReynolds.

Discussion opened by J. E. Miller and E. B. Montgomery.

The papers were of very high grade and resulted in many favorable remarks and considerable discussion.

The meeting adjourned about 11:00 P. M.

HAROLD SWANBERG, M.D.,
Secretary.

CHRISTIAN COUNTY

February 2nd the Christian County Medical Society held a most interesting and profitable meeting. We met at the Country Club for dinner at 7 o'clock and as we had invited the members of the dental society to meet with us we had quite a number. In fact, there were thirty-two or thirty-three of us at the dinner table when all had gathered.

Quite a number of our friends from out of this county were with us. Springfield, Decatur, Shelbyville and Windsor were represented and after the dinner we were entertained for a short time by songs in which Dr. Hite of Shelbyville led and also entertained us with songs and imitations of his own. The main feature of the scientific part of the program was the history and discussion of the case of Dr. Reid of Pana, who recently died of focal infection from pyorrhea of his gums, and this case naturally brought out much discussion of the treatment and care of the teeth.

Dr. Hoover of Shelbyville gave a short address on the cooperation of the medical and dental professions and the address was highly interesting.

The election was simply to re-elect all of the old officers for this year and they are as follows:

President, Dr. S. B. Herdman, Taylorville; vice-president, Dr. Jesse P. Simpson, Palmer; secretary-treasurer, Dr. D. D. Barr, Taylorville; delegate, Guy L. Armstrong, and alternate, T. A. Lawler, both of Taylorville; legal committee, Dr. J. H. Nelms; public health, J. H. Miller of Pana, W. H. Mercer, of Taylorville; censors, Lawler, Nelms and Mercer, Taylorville.

Dr. Caryl C. Method of Chicago was elected on application.

Some of the members paid their dues and others were warned that the secretary would be after them

if they did not remit promptly and remarked that his handwriting should be somewhat familiar to many of the members, for this is the seventeenth time he has been elected to this office and once he was president in the twenty years he has been in this county.

The meeting adjourned to meet again in July, when we hope to have another meeting as good as this one and with more favorable weather.

D. D. BARR.

COOK COUNTY

CHICAGO MEDICAL SOCIETY

Joint Meeting Chicago Medical Society and North Shore Branch, February 3, 1926

1. Some Important Factors in the Management of Sick Infants—George E. Baxter. Discussion—Julius Hess, I. A. Abt.

2. Fractures of the Head of the Radius—Kellogg Speed. Discussion—Chas. Davison, Dennis Crile.

Regular Meeting, February 10, 1926

1. Disease of the Coronary Vessels, Angina Pectoris and Acute and Chronic "Indigestion"—Walter W. Hamburger. Discussion—Leon Bloch, J. G. Carr.

2. Skull Fractures—Cassius C. Rogers. Discussion—Frank B. Moore, Harry Jackson.

Regular Meeting February 24, 1926

Cancer of the Rectum—Jerome M. Lynch, New York, N. Y. Demonstration of pathological specimens of cancer of the rectum—Joseph Felsen, New York, New York.

Discussion—Early Evidences of Malignancy, Charles J. Drueck; Post-Operative Complications, Carl B. Davis; Limitations of X-Ray Treatment, Adolph Hartung.

Regular Meeting, February 24, 1926

1. Minor Surgery of the Prostate Gland—New Apparatus and Instruments for Its Extended Application—Maximilian Stern, New York, N. Y.

2. Clinical Aspects of Surgical Diseases of the Kidney in Children (Lantern Slides)—A. Hyman, New York, N. Y. Discussion—I. A. Abt, D. N. Eisendrath.

3. The Fallacious Orifice—The Value of the Cauteary Punch Operation—John R. Caulk, St. Louis, Mo. Discussion—H. L. Kretschmer, Robert Herbst.

Regular Meeting, March 3, 1926

1. Neurotic Behavior—Mechanisms and Therapy—Chas. F. Read. Discussion—Francis J. Gerty.

2. An Inventory—Mather Pfeifferberger, President-elect Illinois State Medical Society. Discussion—Ed. H. Ochsner, Chas. E. Humiston.

3. The Course of Pulmonary Tuberculosis as Influenced by Non-Thoracic Surgery—Wilson Ruffin Abbott. Discussion—William McIntyre Thompson, Clarence L. Wheaton.

Marriages

JOHN OTIS CLETCHER, Tuscola, Ill., to Miss Jessie Irene Wilson of Flushing, Ohio, January 26.

HOWARD B. DILMAN, Louisville, Ill., to Miss La Fern Deabler of Xenia, at St. Louis, January 19.

ROBERT A. HAMILTON, Hillsboro, Ill., to Miss Ida Dworsach of Litchfield, January 2.

Personals

Dr. Frank S. Whitman, 2d, has resigned as health officer of Belvidere.

Dr. Harold Swanberg, Quincy, has been elected president of the Central Illinois Radiological Society.

Dr. John W. Ovitz, Sycamore, has been appointed physician in charge of the county tuberculosis sanatorium.

Dr. Daniel M. Ottis has been appointed on the board of the Sangamon County Tuberculosis Sanatorium to succeed the late Dr. L. C. Taylor.

Dr. Herman L. Horwitz addressed the Chicago Tuberculosis Society, February 11, at the Brevoort Hotel, on "Cardiac Index—A Means of Prognosis in Pulmonary Tuberculosis."

Dr. Frank N. Davenport has been elected president of the medical staff of Lutheran Hospital, Moline; Dr. Clifford C. Ellis, vice-president, and Dr. David B. Freeman, secretary.

Dr. William T. Brown, superintendent, Valmora Sanitarium, Valmora, N. M., addressed the Physicians' Fellowship Club, February 5, at the Logan Square Masonic Temple.

Dr. Edwin J. Gardiner was elected president of the Chicago Ophthalmological Society, January 18; Dr. Dwight C. Orcut, vice-president, and Robert H. Buck, secretary-treasurer.

Dr. Arthur J. Fletcher has been reelected president of the staff of St. Elizabeth's Hospital, Danville; Edward J. Wheatley, vice-president, and Dr. George T. Cass, secretary.

Isidore S. Falk, Ph.D., assistant professor of hygiene and bacteriology, University of Chicago, has been appointed director of surveys of the

Chicago Health Department, and will undertake a series of statistical researches.

Dr. Henry B. Thomas has been elected president of the Chicago Orthopedic Club; Dr. Beveridge H. Moore, vice-president, and Dr. Philip Lewin, secretary-treasurer.

Dr. John L. Tierney, St. Louis, addressed the Madison County Medical Society, February 5, at Edwardsville, on "Working Up a Case."

Dr. Perl K. Andrews, Danville, has been appointed county physician to succeed Dr. Everett E. Howard, resigned. Dr. Howard is moving to Crawfordsville, Ind.

Dr. Charles Philip Miller, Jr., of the Rockefeller Institute for Medical Research has been appointed assistant professor of medicine at the University of Chicago, and Dr. Chester M. Van Allen, assistant professor of surgery.

Dr. Wesley Claude Runyon, assisting managing officer, Lincoln State School and Colony, has been transferred to a similar position in the state hospital at Alton, and Dr. Ola A. Kibler, on duty at the state hospital at Chicago, will be transferred to Lincoln.

Dr. John W. H. Pollard, former health officer of Quincy, has been appointed health superintendent of the eleventh district of Illinois, comprising Adams, Hancock, McDonough, Schuyler, Brown, Pike and Calhoun counties, to which he will devote full time; his headquarters will be in Quincy.

Dr. Karl L. Thorsgaard has been elected chief of staff at the American Hospital of Chicago; Dr. Gustav Kolischer, head of the department of urology and urologic surgery, and Dr. Thomas J. Williams, head of the department of ophthalmology and otolaryngology; Dr. Thomas A. Carter has been added to the attending staff.

Dr. Ralph H. Kuhns, formerly Instructor in Pediatrics at the University of California, San Francisco, has been appointed Professor and Director of the Department of Pediatrics at the Illinois Post-Graduate Medical School and West Side Hospital, Chicago.

The rules governing the information bureau were recommended by the council and approved by the branch societies.

—The Evanston Hospital, Evanston, is building a four-story building for living quarters for the nonprofessional staff, which will be known as "Hendry House," in honor of William Hendry, who has been chief engineer at the hospital for twenty-five years.

—The Chicago Heart Association held its annual meeting at the City Club, February 2, under the presidency of Dr. James B. Herrick; Dr. Hoyt E. Dearholt, executive secretary, Wisconsin Anti-Tuberculosis Association, spoke on "Heart Disease and Tuberculosis in a Public Health Campaign."

—The Vermilion County Medical Society, Danville, has its own credit-rating and collection bureau, which, in the first two years of its work, collected more than \$25,000 on old accounts turned in by members. Three full-time employees carry on this service, which is maintained twenty-four hours a day.

—The new \$200,000 hospital donated by Sen. William B. McKinley, Champaign, for the care of students at the University of Illinois, Urbana, was formally dedicated, February 13. It conforms to the style of architecture of other new campus buildings, and is located in the University of Illinois Forestry at the west end of Indiana Avenue, Urbana.

—Chicago will erect another school for crippled children at Fifty-First Street and South Artesian Avenue at a cost of \$392,000, which will contain twelve classrooms, twenty special rooms, including clinics, shops and nurses rooms, two gymnasiums and an assembly hall; it will be known as the Walter S. Christopher School, and will receive crippled children from the Henderson School and the Fallon School.

The laboratory of the state department of health will culture and type specimens of sputum from cases of pneumonia, to assist in the anti-pneumonia campaign. The department suggests however, that, in view of the difficulties of mailing specimens, local laboratories be used as much as possible.

—Dr. Frank Smithies has presented to the University of Illinois School of Medicine bonds in sufficient amount to yield annually, at a minimum and in perpetuity, the sum of \$100, to be known

News Notes

—The Chicago Medical Society has inaugurated a service for its members whereby physicians, who agree to accept calls through the Information Bureau, will be assigned to patients.

as "The William Beaumont Memorial Fund," and the annual income therefrom, "The Annual Beaumont Memorial Award." Dr. Smithies' object is to stimulate research in the functioning of the digestive mechanism. The first award will be made in 1927 to the person, who, in the opinion of a faculty committee, submits or publishes during the year the most important work in the specified field.

—Dr. Harry D. Orr, Chicago, has been appointed surgeon general of the Illinois National Guard, to succeed the late Dr. George C. Amereson. Surgeon General Orr graduated from Northwestern Medical School, Chicago, in 1904, and has been associated with the Illinois National Guard since 1902. He was in command of the one hundred and eighth sanitary train, A. E. F., in France, which was attached to the third division; since the war, he has been in command of the medical regiment of the thirty-third division.

—Under the auspices of the National Tuberculosis Association and the Chicago Tuberculosis Institute a regional institute will be conducted at the University of Chicago, March 8-20, for health workers in all nearby states; another such institute will be conducted at Ohio State University, Columbus, March 15-22. Philip P. Jacobs, Ph.D., of the National Tuberculosis Association, is in charge of the program; authoritative speakers will present various phases of the tuberculosis problem. The round table method will be used. The institute will be open to health commissioners, tuberculosis workers and nurses.

—The March issue of the *Medical Review of Reviews* is a special Dermatologic number and will contain original articles by leading American and English dermatologists. Editorial office, 7 West 16th Street, New York City. Subscription \$2.00 per year; 25 cents the copy.

Deaths

EDWIN E. BIRD, Buncombe, Ill.; St. Louis College of Physicians and Surgeons, 1903; member of the Illinois State Medical Society; aged 46; died, Nov. 25, 1925, at St. John's Hospital, St. Louis, following an appendectomy.

FLORA MATINA TANQUARY BRIAN, Bellmont, Ill.; Medical Department of the University of Illinois, Chicago, 1904; member of the Illinois State Medical Society; aged 48; died, Dec. 29, 1925, at St. Mary's

Hospital, Evansville, Ind., of injuries received in an automobile accident.

ANDREW LOUDEN CHAPMAN, Normal, Ill.; Cincinnati College of Medicine and Surgery, 1877; Civil War veteran; aged 78; died, January 12, at St. Joseph's Hospital, Bloomington, of complications, following a fracture of the hip.

HENRY WARD CLIFTON, Watseka, Ill.; Medical Department of the University of Illinois, Chicago, 1908; also a pharmacist; aged 55; died, January 12.

MAX J. FREIDEL, Chicago; Rush Medical College, Chicago, 1897; aged 76; died, January 23, of cerebral hemorrhage and arteriosclerosis.

NATHANIEL VAN VOORHIS GRAVES, Chicago; Loyola University School of Medicine, Chicago, 1916; aged 36; died, January 22, at the West Side Hospital, of carcinoma of the colon.

M. A. GUNTER, Jonesboro, Ill.; College of Physicians and Surgeons, Keokuk, 1878; aged 71; died, January 22, following a long illness.

JOHN T. HUNT, Macedonia, Ill.; College of Physicians and Surgeons, Keokuk, Iowa, 1878; aged 81; died, January 20, of pneumonia.

ANTHONY KRYGOWSKI, Chicago; Chicago Homeopathic Medical College, 1894; Harvey Medical College, Chicago, 1896; Hahnemann Medical College and Hospital, Chicago, 1905; aged 56; died, February 6, of myocarditis, diabetes and nephritis.

GEORGE W. MILLIGAN, Springfield, Ill.; College of Physicians and Surgeons, Keokuk, 1882; aged 72; died, January 23.

WILLIAM G. OSBURN, Stonefort, Ill. (licensed, Illinois, 1883); aged 90; died, February 1, of carcinoma.

CANUTE WALTER RUUS, Chicago; University of Illinois College of Medicine, Chicago, 1909; aged 42; died, January 28, of pleurisy.

DUNCAN FRASER STEWART, Galva, Ill.; Rush Medical College, Chicago, 1900; county coroner; aged 55; died, January 30, following a long illness.

ARTHUR BLAISE SUPPLE, Chicago; Northwestern University Medical School, Chicago, 1909; instructor in gynecology and formerly clinical assistant in gynecology at his alma mater; served during the World War; on the staff of St. Luke's Hospital; aged 38; died suddenly, February 4, of organic heart disease.

WILLIAM PINKNEY SUTHERLAND, Creal Springs, Ill. (licensed, Illinois, 1878); aged 78; died, January 9, of cerebral hemorrhage.

CHARLES F. ROAN, Chicago Northwestern University Medical School, 1891; died at his home February 15, 1926, aged 60, of myocarditis. He was a member of the military examining board, Div. No. 34, of the American Medical Association, the Illinois State and Chicago Medical Societies, Scandinavian Medical Society and Physicians' Fellowship Club. Was a member of the surgical staff of the Norwegian-American Hospital; also of Progressive Lodge No. 954, A. F. & A. M., Oriental Consistory, Medina Temple, Dania D. B. S. No. 18 and The Sons of Denmark.



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Illinois Medical Journal

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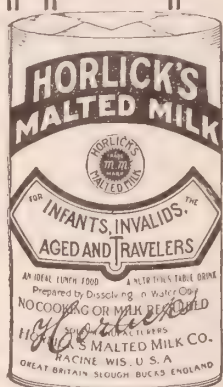
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ILLINOIS MEDICAL JOURNAL

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THE ILLINOIS STATE MEDICAL SOCIETY

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Send original articles and all communications relating to advertisements to Dr. Charles J. Whalen, Editor, 6221 Kenmore Avenue, Chicago.

Membership correspondence to Dr. Harold M. Camp, Monmouth, Ill.

Society proceedings and news items and changes in the mailing list to Dr. Henry G. Ohls, Managing Editor, 1618 Juneway Terrace, Chicago.

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Editorial

ILLINOIS STATE MEDICAL SOCIETY

Champaign-Urbana, May 18, 19, 20, 1926

The officers of the State Medical Society are preparing a program for this meeting that will be a credit to the Society. On this program will be a number of speakers of National prominence.

The local committee on arrangements is striving to have everything in readiness for this meeting and they present a little of the local conditions.

Champaign-Urbana, known as the Twin Cities, are admirably located so as to be reached easily. They are 128 miles south of Chicago, 40 miles west of Danville, 55 miles east of Decatur and 40 miles north of Mattoon, connected with all these cities by hard road. So the Twin Cities are located in the heart of Illinois, one community with a population of 45,000 people.

There are many interesting sights of modern community development to be viewed in the Twin Cities. You are invited to visit the beautiful residential districts, with their newly paved streets, overshadowed with symmetrical rows of maples and elms—not homes of the millionaire type, but homes of people who work, play, plan and study together.

The chief point of interest is the University of Illinois. It has an enrollment of over 10,000 students with a faculty of over 1,000, the third largest University in the U. S. The heads of the University are anxious to meet you and show you your University. It is planned to have an exhibit of some of the University work at the exhibit room of the meeting. It is also planned to have on exhibit a sample of "Illinium," the new element which was recently discovered by Professor Hopkins and associates at the University of Illinois.

INVITATION TO WOMEN

A large enrollment of women guests is expected and entertainment is being planned for

them in nature of drives, luncheons and recitals at the University.

RAILROADS

The Twin Cities are served by three railroads and one electric line. The Illinois Central, Wabash and the Big Four are the railroads serving these cities. Over twenty passenger trains enter and leave here every day. The Illinois

necessary the hotel committee is at the service of the membership. This committee, whose chairman is Dr. James S. Mason, 129 W. Elm St., Urbana, Ill., is in touch with a system that has control of a large number of desirable rooms that can be drawn upon in case the capacity of the hotels in the community is exhausted.

Below will be found a list of the principal



McKinley Memorial Hospital. Presented to the University by Senator Wm. B. McKinley

Central have expressed a desire to run a special train from Chicago if the members of the State Society wish it.

WEDNESDAY NIGHT ENTERTAINMENT

A novel and interesting entertainment is in store for those who attend the meetings on Wednesday evening at 10 P. M. A program of this kind has never been presented before.

Every member of the State Medical Society is invited and urged to attend the meeting in the Twin Cities May 18, 19 20.

ILLINOIS STATE MEDICAL SOCIETY ANNOUNCEMENT

The 76th Annual Meeting of the Illinois State Medical Society will be held in Champaign-Urbana, May 18, 19 and 20, 1926.

In anticipation of one of the largest and best meetings in the history of the Society, the Committees on Arrangements have inaugurated extensive preparations for the meetings and entertainment of the Society.

The Committee on Hotel Accommodations urge that reservations for the meeting be made early, and direct with the management of the hotels. In case further information is found

hotels of the twin community of Champaign-Urbana:

HOTELS

Inman Hotel, Champaign, 150 Rooms (Headquarters for the Society).

Single without bath, \$1.75 and \$2.00; double, \$3.50.

Single with bath, \$2.50, \$3.00 and \$3.25; double, \$4.50, \$5.50 and \$6.00.

Urbana-Lincoln Hotel, Urbana, Ill., 100 Rooms.

Single without bath, 1.75 and \$2.00; double, \$3.00 to \$3.50.

Single with bath, \$2.50 to \$3.50; double, \$4.00 to \$6.00.

Beardsley Hotel, Champaign, Ill., 100 Rooms.

Single without bath, 1.50; double, \$2.50.

Single with bath, \$2.50; double, \$4.50.

Cots without bath, \$1.00.

Cots with bath, \$1.50.

Hamilton Hotel, Champaign, Ill., 65 Beds.

Single without bath, \$1.50; double, \$3.00.

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McClurg Hotel, Urbana, Ill., 25 Beds.

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Single with bath, \$2.50; double, \$3.50 and \$4.00.

(Signed) Chairman Hotel Committee.

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While the figures vary in the respective counties, from \$8.00 down state to \$13.00 in Cook County per year depending upon the local activities of the county society in which you reside. Illustrative of the benefits secured from such affiliation rate the following:

1. For approximately \$10.00 per year you get medico-legal protection; membership in your County and Illinois State Medical Societies and the Illinois Medical Journal. Membership in the above gives you membership and makes you eligible also to fellowship in the American Medical Association. Affiliation and Association with this large representative body of men is of great value and importance to every physician.

2. Medical Defense. Out of your annual dues paid, the trustees of the State Medical Society are required to turn \$1.50 over to the "medical defense committee" for the protection and defense of members of the society against whom suits for malpractice or damages may be brought. For years the Illinois State Medical Society has been meeting all expenses of such litigation—that is, court costs, attorney's fees, costs of appeals, witness fees, the cost of record—no limitation

being placed on this sort of expense of an individual case.

This means that if you become a member of the Illinois State Medical Society you will be defended in every effective manner possible against suits for damages for alleged malpractice, as well as attempted blackmail. This one feature alone is worth many times the cost of membership. Private defense companies are charging \$15.00 to \$75.00 per year and upwards for the defense and indemnity.

Medical Legislation. Also \$1.00 is set aside for a fund to be used by the Public Relations Committee for the purpose of combating vicious legislation.

Members of the Illinois State Medical Society are also eligible to membership in any or all of the various affiliated special medical societies in Illinois.

3. Membership in the Illinois State Medical Society. All members of any county Medical Society are ipso facto members of the Illinois State Medical Society and will receive all publications of the State Society without any additional fees, dues or subscriptions.

Memberships in the state and local society are necessary before you can affiliate with the reputable, professional societies of the country and the American Medical Association. In some states a year's membership in the local society is required before they can secure a license by examination or reciprocity.

4. The Journal of the Illinois State Medical Society. This Journal, owned and published by the Medical profession of Illinois, is sent free to each member. Published monthly. The official organ of the Illinois State Medical Society, one of the largest state organizations in the country. It is the most comprehensive state medical journal, both in point of circulation and editorial scope. Unapproached in either size or influence by any other state medical journal. In the JOURNAL is printed the proceedings of the Illinois State Medical Society; the Tri-State District Medical Society (Illinois, Iowa, Wisconsin, and Minnesota) and the Chicago Medical Society, which is the largest local medical society in the world. The Chicago Medical Society meets every week, and it has fifteen branches, proceedings of which also are printed in the Illinois Medical Journal, as well as of eleven affiliated societies, namely: Gynecological, Pathological, Ophthalmological,

Surgical, Urological, Laryngological and Otological; Orthopedic, pediatric, neurological, Roentgen Ray, Medical Legal. On the programs of these various societies appear from time to time a great many of the most eminent men of America and Europe. In the Journal also is published the papers read and the reports of all meetings of the respective county society meetings throughout the state, as well as all the news of interest to medical men in Illinois and throughout the United States. The price of the JOURNAL for non-members is \$3.00 per year. It is sent to all members of the Illinois State Medical Society, as one of the perquisites of membership.

5. Reformation of Medical Conditions. Many reforms are being carried on which in previous years were impossible. A year ago the Medical Legislation Committee of the Illinois State Medical Society succeeded in having passed by the Illinois State Legislature what is considered the best medical practice act in the United States. This Society has a representative as chairman of this committee in Springfield, and the committee is working to the good advantage of medicine in this State. The committee is receiving financial support from the State Medical Society as necessity requires. Every year different cults and branches of so-called medicine try to have special laws passed which will license them through examinations which do not conform to the medical practice act. It is only through large membership, financial and moral support that this type of legislation can be controlled.

Abuse of medical charities, illegitimate and unethical methods of practice, and all the other evils which have embarrassed the physician and reduced his income can only be successfully handled by a well organized and compact profession, able to take a positive stand on these matters and to carry out its decisions. There is in view (under thorough organization), relief from many of our present difficulties. There never will be devised a patent mechanism which will relieve the doctor of participations in our political activities. Physicians must govern themselves or they will be misgoverned.

6. Eligibility to Fellowship in the American Medical Association. The only way in which a physician can become a member of the State or National organization is through the local society of the County in which he lives. The advantages

and privileges to be gained through membership in this great association need not be enlarged upon. Fellowship in the American Medical Association includes *The Journal of the American Medical Association*, the greatest weekly medical journal published in the United States.

7. Regulations of Pharmaceutical Preparations. The American Medical Association has established a committee, known as the Council on Pharmacy and Chemistry, for the purpose of examining, analyzing and reporting from time to time, to the profession its findings on the most important proprietary preparations, such as the general practitioner is constantly being importuned to buy and prescribe for his patients. This movement, which is of vital importance to every practicing physician, deserves the support of all members of the profession, regardless of society affiliations. By becoming a member of your local society you will come more closely in touch with organized and systematic efforts for the uplift and benefit of the profession at large.

8. The Completion of Medical Organization in Illinois. The Illinois State Medical Society, today, comprises three-fourths of the reputable members in the State. It is to the interest of every physician in Illinois to complete and strengthen this organized and concerted movement on the part of the profession for the betterment of local conditions. The suppression of quackery, the prevention of enactment of vicious legislation, and the consummation of other needed reforms can only be accomplished by complete and thorough organization and unanimity on the part of the profession of the State. In this work the support and co-operation of every reputable physician is requested.

The welfare of your profession depends upon the support you give it. A well organized profession means greater respect and better compensation.

The Illinois State Medical Society desires your support and co-operation. Go to the next meeting of your local or county society and meet the other physicians of your neighborhood. Ask one of the officers of the society for an application blank, fill out the blank, either send or better hand it to the President or Secretary together with the fee for membership in your county society and thus secure membership in the organized profession of the state and participate in the benefits and privileges of medical organization.

Qualifications for Membership—Every registered physician residing in any county, who is of good moral and professional standing and who does not claim to practice any exclusive system of medicine, shall be eligible for membership.

PERSONS WHO SEEK A LICENSE TO TREAT HUMAN AILMENTS SHOULD KNOW HOW TO DIAGNOSE DISEASE

WE HAVE TOO MANY LAWS AND TOO LARGE A TAX LEVY

Bureaucracy is a curse wherever inaugurated. In the management of medical affairs it is fatal. Germany stood at the pinnacle of medical achievement thirty years ago. Under bureaucratically administered state medicine, Germany has come to have the worst medical service in the world and the poorest care for the health of the people. It will be ruinous to the health and welfare of the United States if this system is adopted in this country.

No doubt before the next legislature will be presented many bills, attempting to regulate incompetently the practice of medicine and needlessly to increase taxation. Many of these bills will provide for the licensing to practice medicine, of uneducated and improperly equipped men and women.

We ask no especial favors for doctors, but we believe in a single standard of education and a thorough professional training before a man or woman can be licensed to practice the healing art or to diagnose disease.

Persons who seek a license to treat human ailments in the State of Illinois should know how to make a diagnosis of disease which is essential for the conservation of the public health.

There should be no side door short cuts to the practice of the treatment of disease in this state.

We have too many laws, and too large a tax levy.

Living expense and taxes will be lowered as soon as hundreds of over-priced, interfering recently adopted and unnecessary laws are done away with. America is mortally ill from a plague of laws. This evil is maintained at an annual cost per capita of \$91, and of about \$350 per family. One out of every twelve people in

the United States who are over sixteen years of age and who are gainfully employed is on the public payroll. In the last few years this ratio has risen from one out of every 1,000. There are 15,000,000 employes on the public payroll according to the estimates of census statisticians. This places an office holder or "tax-consumer" on the backs of every two tax-producers. Exclusive of pensioners there are almost three million public servants whose pay comes from the ever-increasing taxes. A large proportion of this number is engaged in the administration and execution of superfluous statutes.

A similar situation crushed France and produced the French revolution. It was the bane and damnation of Germany.

"Americans are now compelled by law to do, and prohibited by law from doing, more things than were the citizens in autocratic Europe before the war."

We are the victims of a paternalistic regime that will eventually enslave and bankrupt the country. The cost of government has become unbearable. Too many functions of local and of state governments are being controlled by hidden bureaus in Washington. There is more power exercised today in these bureaus by unknown "experts," political appointees of whispering propaganda than by the courts themselves.

Centralization of government, bureaucracy, state subsidies and autocratic control are a poignant menace and a fatal growth.

The medical profession of the respective legislative district should ask prospective candidates for the legislature as to his or her attitude towards medical legislation designed to increase taxes and to medical legislation intended to safeguard your health and that of your neighbors and fellow citizens.

THE TEN COMMANDMENTS OF MEDICAL ETHICS

The January issue of the *Indiana Medical Journal* publishes from the pen of the late Frank B. Wynn, M. D., the following choice gem from his numerous medical writings. Wynn's paraphrasing of the professional code and of biblical form and language is reproduced, as follows:

I. Reverence and Responsibility.

Remember the Creator in the days of thy professional youth. Bow reverently before the wondrous human body, sick or well, as thou wouldst before a sacred shrine, conscious of thy high duty; resolved to serve to the best of thy power, whether the patient be white or black, prince or pauper, saint or degenerate.

II. Historic Appreciation.

Honor thy father and thy mother. Likewise give praise to the fathers in medicine whose rich heritage of scientific and clinical truth has been handed down to thee through centuries of patient toil. Hold fast to that which is good, but let not the prejudices coming out of the past, blind thy vision to the newer truths of medical advancement.

III. Keeping the Faith.

Thou shalt not worship the graven images of false practice—of avarice and selfishness which eat at the very heart of medical idealism; of clever artifice or brazen quackery which knowingly deceives; of erratic isms and cults which tell but half truths, leading the ignorant and unwary astray.

IV. Inviolable Confidences.

Thou shalt not disclose the secrets confided to thy keeping by trusting patients, unless they be of criminal or treasonable import. Nor shalt thou abuse the intimacy granted to thee by women, which becomes a professional and moral obligation thou shouldst hold inviolate.

V. The Sanctity of Life.

Thou shalt not hazard life unwarrantably. Neither shalt thou shrink before the obvious perils of duty when life is at stake. The unborn shalt thou not destroy, except after due consultation it is deemed advisable for the larger saving of life. Suffer not death to come through neglect in the routine care of the sick, nor from failure in reading, study and counsel, to gain the greatest benefit for the patient.

VI. Professional Coöperation.

Thou shalt not bear false witness against a worthy professional brother, but seek ever to protect his reputation from calumnious attack by misinterpreting laymen. Of thy knowledge give him unstintingly, counseling and coöperating for medical progress.

VII. Gentlemanly Conduct.

Thou shalt not prate of cases, nor countenance unseemly boasting of thy achievements in the lay press. Always a gentleman, let thy conduct be reserved but without cowardice; courteous but without flattery; dignified but of warm heart; tender in ministration but firm in command, clean of body, speech and mind.

VIII. Honesty in Business.

Thou shalt not steal; neither shalt thou make extortionate charges nor deceive by the secret division of fees. Let thy service be worthy of hire for which exact fair compensation, but by open methods, with conscience void of offense toward thy fellowmen.

IX. Obligation to One's Own.

Take heed of the morrow for the sake of thine own flesh and blood. Therefore shalt thou keep orderly accounts, collecting from the full-handed just recompense for services rendered. To the poor and to the families of deserving colleagues thou shouldst account it a privilege to render faithful attention.

X. Personal and Public Service.

Remember thou art thy brother's keeper—physically in the measures advised for the prevention, alleviation or healing of disease; spiritually in the cheer thou bringest to heavy hearts and the courage thou givest to halting steps. So walking upright before man, mayest thou show thyself approved unto God. Thus journeying toward life's end, if not singing with the Psalmist, "My cup runneth over," thou wilt at least be sustained by the reflections of "A workman who needeth not be ashamed."

IMPORTANCE OF HEALTH EXAMINATIONS STRESSED BY SURGEON GENERAL CUM- MING, U. S. PUBLIC HEALTH SERVICE

The physician's place in the early detection of disorders and habits that eventually lead to serious degenerative conditions, such as heart disease, was discussed by Surgeon General Hugh S. Cumming, of the United States Public Health Service, before the annual meeting in December of the Seaboard Medical Association at Norfolk, Virginia. The subject of the Surgeon General's paper was "The Significance and Importance of Periodic Medical Examinations." This new health movement was characterized as significant from the standpoint of preventive medicine, because it emphasizes the importance of the individual assuming a larger share of responsibility for his own health through utilizing the service of his physician for health promotion as well as for disease prevention.

ILLINOIS STATE MEDICAL SOCIETY

SEVENTY-SIXTH ANNUAL MEETING,
1850-1926

Champaign-Urbana, May 18, 19, 20, 1926

OFFICERS

J. C. Krafft, President, Chicago.
Mather Pfeiffenberger, President-elect, Alton.
Warren Pearce, First Vice-President, Quincy.
J. J. Pflock, Second Vice-President, Chicago.
A. J. Markley, Treasurer, Belvidere.
Harold M. Camp, Secretary, Monmouth.

THE COUNCIL

J. S. Nagel, 3rd District, Chicago, 1928.
Wm. D. Chapman, Chairman, 4th District,
Silvis, 1928.
S. E. Munson, 5th District, Springfield, 1928.
I. H. Neece, 7th District, Decatur, 1928.
D. B. Penniman, 1st District, Rockford, 1926.
E. E. Perisho, 2nd District, Streator, 1926.
S. J. McNeill, 3rd District, Chicago, 1926.
G. B. Dudley, 8th District, Charleston, 1926.
Andy Hall, 9th District, Mt. Vernon, 1927.
R. R. Ferguson, 3rd District, Chicago, 1927.
H. P. Beirne, 6th District, Quincy, 1927.

ILLINOIS MEDICAL JOURNAL

Charles J. Whalen, Editor, Chicago.
Henry G. Ohls, Managing Editor, Chicago.

STANDING COMMITTEES**PUBLIC POLICY**

Emmet Keating, Chairman, Chicago.
Warren Johnson, Chicago.
John F. Sloan, Peoria.

MEDICAL LEGISLATION

John R. Neal, Chairman, Springfield.
Chas. E. Humiston, Chicago.
Edward Bowe, Jacksonville.

MEDICO-LEGAL

C. B. King, Chairman, Chicago.
C. G. Farnum, Secretary, Peoria.
R. O. Hawthorne, Monticello.
C. A. Hercules, Harvey.
J. R. Ballenger, Chicago.
Walter Wilhelmj, East St. Louis.

RELATIONS TO PUBLIC HEALTH ADMINISTRATION

A. H. Geiger, Chairman, Chicago.
J. E. Tuite, Rockford.
E. P. Coleman, Canton.

J. J. Pflock, Chicago.
A. A. Hayden, Chicago.

LAY EDUCATION

J. H. Hutton, Chairman, Chicago.
Chas. J. Whalen, Secretary, Chicago.
R. R. Ferguson, Chicago.
Wm. D. Chapman, Silvis.
B. C. Keller, Director.

SECTION OFFICERS**SECTION ON MEDICINE**

B. V. McClanahan, Chairman, Galesburg.
LeRoy H. Sloan, Secretary, Chicago.

SECTION ON SURGERY

Philip H. Kreuscher, Chairman, Chicago
E. P. Coleman, Secretary, Canton.

SECTION ON EYE, EAR, NOSE AND THROAT

Chas. Moore Robertson, Chairman, Chicago.
Louis Ostrom, Secretary, Rock Island.

SECTION ON PUBLIC HEALTH AND HYGIENE

C. H. Diehl, Chairman, Effingham.
H. V. Gould, Secretary, Chicago.

SECRETARIES CONFERENCE

Harold Swanberg, President, Quincy.
Elizabeth R. Miner, Vice-President, Macomb.
J. S. Templeton, Secretary, Pinckneyville.

COMMITTEE ON ARRANGEMENTS

Earl D. Wise, Chairman, Champaign.
J. C. Dallenbach, Champaign.
J. S. Mason, Urbana.
H. C. Kariher, Champaign.
C. George Appelle, Champaign.

MEETINGS OF THE HOUSE OF DELEGATES

Tuesday Evening, May 18, 1926
9:00

Meeting called to order by the President, J. C. Krafft, for reports of officers, committees and other business to come before the House.

Thursday Morning, May 20, 1926
8:00

Meeting called to order by the President for the election of officers, reports of committees and other business.

ENTERTAINMENT

An excellent program is being arranged by the Committee on Arrangements for the ladies during the entire session. The plans have not

yet been perfected, but will appear in the printed program in detail. This will give the ladies an unusual opportunity to see the beauties of the university, the twin-cities, and to participate in the social affairs being planned for them.

Entertainments for the members and guests of the society are also planned, but the exact program has not yet been announced.

Alumni and fraternity banquets can be arranged for by writing the Committee on Arrangements. It is expected that there will be a number of such banquets and class reunions during the meeting.

GENERAL SESSIONS

First M. E. Church

Tuesday Evening, May 18, 1926

7:30—Call to Order of the Society by the President, J. C. Krafft

Invocation, Rev. Herbert A. Keck, D. D., Pastor First M. E. Church, Champaign.

Addresses of welcome, George J. Babb, Mayor of Champaign; W. F. Burres, M. D., Mayor of Urbana.

Report of the Chairman of the Committee on Arrangements, Earl D. Wise, Champaign.

Address, David Kinley, Ph.D., LL.D., President, University of Illinois, "Some Influences Affecting Medical Education." (It is planned to have this address broadcasted by the University of Illinois Radio Station.)

Wednesday Afternoon, May 19, 1926

2:00

Oration in surgery: "The Present Status of the Goiter Problem; With Lantern Illustrations," W. D. Haggard, M. D., President, American Medical Association, Nashville, Tenn.

4:00 to 6:00

Joint meeting of Sections for Teaching Clinics. Demonstration of Orthopedic and Pediatric Cases. (Names of those participating to be announced.)

Wednesday Evening, May 19, 1926

7:30

President's address, J. C. Krafft, M. D., President, Illinois State Medical Society. (Subject to be announced.)

Oration in medicine. Wm. Engelbach, M. D., St. Louis, Mo. (Subject to be announced.)

10:00

Entertainment for members and guests, given by the Champaign County Medical Society.

Thursday Morning, May 20, 1926

8:00 to 12:00

Teaching clinics.

"Discussion of Medical and Surgical Aspects of Upper Abdominal Diseases." (Names of clinicians and their individual subjects to be announced.)

SECRETARIES' CONFERENCE

Tuesday, May 18, 1926

Masonic Temple

Harold Swanberg, President, Quincy.

Elizabeth R. Miner, Vice-President, Macomb.
J. S. Templeton, Secretary, Pinckneyville.

9:30 A. M.

1. Observations From the Standpoint of a New Secretary, B. V. McClanahan, Galesburg, Secretary Knox County Medical Society.

2. The 100 per cent Efficiency County Medical Society Secretary, Harold M. Camp, Monmouth, Secretary, Illinois State Medical Society.

3. Political Attitude of Physicians, J. R. Neal, Springfield, Chairman, Legislative Committee, Illinois State Medical Society.

4. Remarks by Olin West, Chicago, Secretary, American Medical Association.

5. Remarks by Mather Pfeifferberger, Alton, President-elect, Illinois State Medical Society.

6. The County Secretary's Task in Missouri, E. E. Brunner, M. D., Marshall, Mo., former Secretary of Secretaries' Conference, Missouri Medical Association.

Every physician, regardless of whether he is a county society secretary or not, is invited to attend the conference.

SECRETARIES' BANQUET

The annual banquet will be held on Wednesday evening, May 19, 1926, at the Champaign Elks Club, at 6:00 o'clock. Tickets are \$1.25 and can be purchased from any of the officers of the Conference. There will be some splendid addresses and every physician is invited to attend.

SECTION PROGRAMS

SECTION ON MEDICINE

Tuesday, May 18, 1926

1:00—Renal Insufficiency and Its Treatment—N. C. Iknayan, Charleston. Discussion by S. E. Munson, Springfield.

1:30—The Cardiac Manifestations of Goiter—Frank O. Deneen, Bloomington.

1:50—Recent Medical Treatment of Goiter; Toxic and Non-Toxic—Henry M. Thomas, Johns Hopkins Hospital, Baltimore. Discussion of goiter papers by Jas. H. Hutton, Chicago.

2:30—Fecoliths With Megacolon, Report of a Case (with lantern slides)—Leland H. Anderson, Aurora.

2:50—The Diagnosis and Treatment of Non-Specific Ulcerative Colitis—Sidney Portis, Chicago. Discussion of both papers by James Mason, Urbana.

3:30—The Treatment in Gastric and Duodenal Ulcer—J. B. Beykirch, East St. Louis.

3:50—The Rationale of the Neutralization Treatment of Peptic Ulcer, (with lantern slides)—Donald Abbott, Chicago. Discussion of papers of Drs. Beykirch and Abbott by Walter L. Palmer, Chicago.

4:30—Botulism—Robert Graham, Prof. of Animal Pathology, University of Illinois.

Wednesday, May 19, 1926

8:00—Polycythemia, Report of a Case with Low Hemoglobin—J. C. Reddington, Galesburg. Discussion by George Parker, Peoria.

8:30—Some Observations on Etiology and Treatment of Pathological Blood Pressures—Nathan S. Davis, III, Chicago. Discussion to be announced.

9:00—The Conquest of Disease—John J. McShane, State Department of Health, Springfield. Discussion by S. S. Winner, Springfield.

9:30—Paroxysmal Tachycardia—James Carr, Chicago.

9:50—Coronary Thrombosis—Isadore Trace, Chicago. Discussion of papers by Drs. Carr and Trace, by Harry Durkin, Peoria, and Frederick Bureky, Chicago.

10:30—Arsenic Therapy in Pulmonary Infections (with lantern slides)—Isadore Pilot, Chicago.

10:50—Newer Therapeutic Methods in the Treatment of Pulmonary Tuberculosis (with

lantern slides)—P. S. Winner, Medical Sup't. Municipal Tuberculosis Sanitarium, Chicago. Discussion of these papers to be announced.

11:30—When the Doctor Dies; What Does He Have to Sell?—Emmet Keating, Chicago.

3:00—Malaria Treatment of Paresis—Charles F. Read, Chicago; John Nerancy, Chicago, and H. Tucker, Elgin. Discussion to be announced.

3:30—Newer Knowledge Concerning Nephritis—W. McKim Marriott, Dean, and Professor of Pediatrics, Washington University Medical School, St. Louis. Discussion by Warren Pearce, Quincy.

SECTION ON SURGERY

1. Further Observations on the Use of Colloid Gold in Inoperable Cancer—Edward H. Ochsner, Chicago.

2. Urological Cases of Unusual Interest From the Viewpoint of Diagnosis and Treatment (with lantern slides)—Vincent J. O'Connor, Chicago.

3. The Clinical Significance of Laboratory Diagnosis—Edward H. Weld, Rockford.

4. The Surgical Treatment of Congenital Umbilical Hernia—H. P. Saunders, Chicago.

5. Traumatic Gumma and Its Relation to Compensation Insurance—J. P. Hahn, Galesburg.

6. Radium Emanation in the Treatment of Intra-Oral Cancer—F. E. Simpson, Chicago, and R. E. Flesher, Chicago.

7. Spondylitis of Unknown Origin Simulating Typhoid Spine—S. C. Woldenburg, Chicago.

8. Surgical Treatment of Advanced Osteomyelitis—Don Deal, Springfield.

9. The Treatment of Mediastinal Abscess Complicating Dorsal Pott's Disease—Arthur Steindler, University of Iowa, Iowa City. (By special invitation.)

10. X-Ray Diagnosis of Gall-Bladder Lesions—William A. Brams, Chicago.

11. Adenomyomas of the Recto-Vaginal Septum—Clifford U. Collins, Peoria.

12. Cancer of the Bladder—Daniel N. Eisen-drath, Chicago.

13. Palliative Treatment of Inoperable Cancer—J. K. Narat, Chicago.

14. Some Problems in Bone Surgery—John R. Harger, Chicago.

15. Surgical Indications in Fibroid Uteri—W. A. Newman Dorland, Chicago.

16. Emergency Lung Surgery (by invitation)—Donald MacRae, Council Bluffs, Iowa.

Other papers and those to discuss papers in this section to be announced in later publication.

SECTION ON EYE, EAR, NOSE AND THROAT

Tuesday, May 18, 1926

DRY CLINICS

9:00

1. Labyrinthitis and Brain Abscess Following Mastoiditis—George W. Bott, Chicago.

2. Spheno-Palatine Syndrome and Its Relation to Ozena—Joseph Beck, Chicago.

3. The Various Types of Iridectomy—George F. Suker, Chicago.

4. Non-Operative Treatment of Glaucoma—Harry W. Gradle, Chicago.

5. Subject to be announced—Harry W. Woodruff, Joliet.

6. Teaching of Oto-Laryngology—Norval H. Pierce, Chicago.

The annual section banquet will be held at 6:30 P. M.

Wednesday, May 19, 1926

8:30

1. Otological Complications of Basal Skull Fractures—C. F. Yerger, Chicago. Discussion, Howard C. Ballenger, Chicago.

2. Observations of the Fundus Oculi in Tryparsamide Treatment of General Paralysis of the Insane—J. C. Roth, Kankakee.

3. Refraction Now and 40 Years Ago—C. W. Hawley, Chicago.

4. Chronic Suppurative Otitis Media—O. J. Nothenberg, Chicago. Discussion, Frank J. Novak, Jr., Chicago.

5. Recent Work on the Function of the Semi-Circular Canals—Coleman Griffith, Champaign. (By invitation.)

6. Facoeirisis (with movie demonstration)—W. A. Fisher, Chicago. Discussion by Harry Woodruff, Joliet.

2:00

7. The Signification of Pain in Para-Sinusitis—C. H. Long, Chicago.

8. Endoscopy—H. R. Watkins, Bloomington. Discussion, Wesley H. Peck, Chicago.

9. Treatment of Suppurative Frontal Sinusitis—A. A. Hayden, Chicago. Discussion, J. Niess, Carmi.

10. History of Our Specialty—D. D. Barr, Taylorville.

11. Mumps of the Lachrymal Gland—James E. Lebensohn, Chicago.

SECTION ON PUBLIC HEALTH AND HYGIENE

1. Some Medical Conditions that Influence Scholastic Standing—Harold T. Larson, B. S., and J. Howard Beard, M. D., Urbana.

2. Relations of Women's Clubs to the Public Health Program—Lena K. Sadler, M. D., Chicago.

3. Stream Pollution and Methods of Prevention—Mr. Langdon Pearse, Sanitary District of Chicago.

4. Standardizing Public Health Practice—C. St. Clair Drake, M. D., Chicago.

5. Changing Tendencies in Public Health Methods—George T. Palmer, M. D., Springfield.

6. Practical Methods for Advancing Popular Health Education—Herman N. Bundesen, M. D., Health Commissioner, Chicago.

7. Observations From the Notebook of a Coroner's Physician—Thomas Foley, M. D., Chicago.

8. The Cancer Outlook—Mr. Frederick L. Hoffman, Consulting Statistician, Prudential Life Insurance Company, Newark, N. J. (By invitation.)

9. Relation of the Dentist to the Public Health—W. F. Whalen, D. D. S., President-elect Illinois State Dental Society, Peoria. (By invitation.)

10. Preventive Medicine in Pediatrics—A. E. Williams, Rock Island.

11. Status of Milk Pasteurization in Illinois—I. D. Rawlings, M. D., Director State Department of Public Health, Springfield.

EXHIBITORS AT THE MEETING

American Medical Association, "Hygeia," Chicago.

Harrower Laboratories, Inc., Glendale, California.

H. G. Fischer Company, Chicago.

Hettinger Brothers Company, St. Louis.

White-Haines Optical Company, Columbus, Ohio.

Abbott Laboratories, North Chicago, Illinois.

Ciba Company, New York City.

McIntosh Electrical Corporation, Chicago.

Cameron Surgical Specialty Company, Chicago.

Horlick's Malted Milk Corporation, Racine, Wis.

Standard Oil Company of N. J., New York City.

Mead Johnson Company, Evansville, Indiana.

Victor X-Ray Corporation, Chicago.

Fellows Medical Manufacturing Company, New York City.

Huston Brothers Company, Chicago.

C. V. Mosby Company, St. Louis.

Deshell Laboratories, Chicago.

Medical Protective Company, Ft. Wayne, Ind.

Chas. H. Phillips Company, New York City.

V. Mueller & Company, Chicago.

A. S. Aloe Company, St. Louis.

De Puy Manufacturing Company, Warsaw, Indiana.

Laboratory Products Company, Cleveland, Ohio.

Merrell-Soule Company, Syracuse, N. Y.

W. B. Saunders Company, Philadelphia, Pa.

Sutliff & Case Company, Peoria, Illinois.

Lavoris Chemical Company, Minneapolis.

Hanovia Chemical & Mfg. Company, Newark, N. J.

Swan-Myers Company, Indianapolis.

Sharp & Smith, Chicago.

W. A. Baum Company, New York City.

E. R. Squibb & Sons, New York City.

In addition to these there will be scientific and pathological exhibits of unusual interest to all physicians.

NOTES ON EXHIBITS

The American Medical Association exhibit will feature "HYGEIA," their Journal of Individual and Community Health. This most commendable Journal has rapidly come to the front as the leading health magazine, and it should by all means be in the office of every physician. An opportunity will be given to those who have not yet subscribed to do so and show their interest in Health and Community problems. We advise you to chain it to your table unless you want your patients to walk off with it. Other publications from the American Medical Association Press will also be exhibited, and those members of the Illinois State Medical Society in good standing who have not yet affiliated can become Fellows of the American Medical Association.

E. R. Squibb & Sons of New York City will be represented at the meeting by some of their force who are conversant on the merits of their well known products. Many of the newer preparations will be exhibited, and their indications mentioned. We are assured that this exhibit will be of unusual interest to all physicians in attendance at the meeting.

Abbott Laboratories of North Chicago will have an interesting display in booth No. 5. Butesin Picrate Ointment presents the combined features of anesthesia and antiseptic action in the same chemical. It is of unusual service in the treatment of burns, leg ulcers, and as a general surgical dressing. Digipoten represents "digitalis at its best." Parresined Lace Mesh Surgical Dressing will warrant much consideration. It has the approval of the surgeon's office of the United States Army. They will have on display many of their old reliable preparations, as well as many newer ones, which will appeal to the medical and surgical professions represented at the meetings.

Don't fail to visit the exhibit of Aloe's Surgical Supply House. Here is where you will find the newest instruments and up-to-date equipment for the physician's office, also a high grade line of physio-therapy equipment, as well as a new importation of German instruments coming direct from their factory in Germany. Also the new super-diatherm and the Finsen deep therapy lamp. In this booth they will have on display quality merchandise at the lowest possible prices, and the 50 per cent sale that is held annually by them at the meeting of the Illinois State Medical Society.

Huston Brothers Company of Chicago will exhibit in spaces Nos. 22 and 23. They have been exhibitors at our meetings for the past twenty years. Their exhibit this year will not only include samples of the latest patterns of the usual full line of staple instruments and appliances, but also a big variety of patterns of entirely new instruments, many of their own invention. Among these are a new type of stethoscope, by which, it is claimed, the foetal heart tone is heard as clear as the ticking of a watch, a new rectal irrigator, a tonsil snare which operates without the use of a wire, new types of surgical needles, eliminating many of the disadvantages of other types, a new type of vaginal speculum and a new line of obstetrical instruments. They will also display a new type of spectacles arranged so that illumination can be given in direct line with the vision.

The value of transillumination, direct illumination, accurate diagnosis, simplified technique, cauterization and improved instrumentation will be demonstrated as applied to all phases of major and minor diagnostic, operative and therapeutic procedure at the exhibit of Cameron's Surgical Specialty Company, Chicago, at space No. 11 each day during the meeting. No progressive member of the profession can afford to overlook this demonstration.

The Merrell-Soule Company of Syracuse, N. Y., will exhibit its group of dehydrated milk adaptations: Klim, powdered protein milk, powdered lactic acid whole milk and its new carbohydrates, Vi-Mal-Dex. Representatives will be at the exhibit at all times prepared to discuss the merits of these preparations. Ice cold reliquified Klim and Klim wafers will be served at the exhibit and souvenir boxes of the wafers will be given to all physicians and physicians' wives desiring them.

H. G. Fischer & Company, Inc., of Chicago will

have a splendid complete exhibit of the latest developments in electro-physiotherapeutic equipment in booth No. 2. Special attention will be called to their newest and different diathermy machines and their new portable diathermy units. They will also exhibit the latest types of quartz lamp apparatus, radiant therapy lamps, wave generators and many new types of electrodes and applicators for the various electrical modalities.

Sharp & Smith of Chicago will occupy spaces 42, 43 and 44. Their exhibit will consist of a full and complete line of the latest and most improved models of surgeon's instruments and appliances, and they cordially invite all physicians and surgeons in attendance to inspect their products. They have many new items for this occasion, which for lack of space we are unable to mention in this brief announcement.

The Harrower Laboratory, Inc., Glendale, California, has an interesting exhibit of all of their endocrine preparations, including a new line of polycrines and monocrines for intramuscular injection in endocrine disorders. Physicians are cordially invited to visit the Harrower booth where Mr. E. J. Smith will be "at your service."

Sutliff & Case Company of Peoria will have in space No. 37 a full and complete line of pharmaceuticals of their own manufacture, surgical instruments and office equipment. They wish to meet their old friends and make many new ones at the meeting.

The Deshell Laboratories will exhibit their well known products, Petrolagar plain and Petrolagar with phenolphthalein. Petrolagar is an emulsification of mineral oil with agar, indicated for use as an intestinal lubricant. An interesting feature of the exhibit will be the data on the value and application of "habit time" in the treatment of constipation and the function played by Petrolagar in instigating the normal habit time in the constipated colon.

The C. V. Mosby Company, medical publishers of St. Louis, will exhibit their leading publications in booth No. 24. Among the new books in their display will be the new edition of Sutton, "Diseases of the Skin;" Hirschman, "Diseases of the Rectum;" Orr, "Amputations;" Adam, "Asthma;" Ryall, "Operative Cystoscopy;" Beattie-Dickson, "Pathology;" Duke, "Allergy;" Graham, "Empyema Thoracis;" Copher, "Methods in Surgery" and Koehler-Ehrenfest, "Puerperal Fever."

In space No. 26 the Medical Protective Company of Ft. Wayne will have in attendance several of its representatives to confer with its contract holders, or any other members of the profession, relative to the liabilities accruing to the profession or to explain any point in the service and method of the company. Any physician is welcome to propound any questions upon the subject of malpractice insurance that he may desire.

Hettinger Brothers of St. Louis will occupy space No. 3. They will exhibit the Wappler Portable Telatherm and other Diathermia appliances. They will also have a full line of surgical instruments, office supplies, etc.

An extensive collection of instruments and apparatus

of their own manufacture as well as many important new items from foreign medical centers will be demonstrated by V. Mueller & Co. in spaces Nos. 28 and 29. Among the domestic items are Friend's liver forceps, De Lee's Obstetric and Caesarean Section instruments, miniature headlights, etc. Foreign items are new trephining sets, several new stomach and intestinal clamps, new bone banding and metal suture sets, etc.

The Chas. H. Phillips Company will exhibit its standard products in space No. 27. Phillips' Milk of Magnesia, Phospho-muriate of Quinine, Digestible Cocoa's Compound, and its new dentrifice, Phillips' Dental Magnesia, a superior tooth paste based upon Phillips' milk of magnesia. Your inspection of these products is cordially invited.

The McIntosh Electrical Corporation of Chicago will have in booths 9 and 10 their latest models of apparatus, including the Biolite, the new infra-red ray generator. With 46 years accumulated experience in the manufacture of electro-physiotherapy equipment, and from constant attention to the newer developments in apparatus in American and European clinics, they are prepared to show the medical profession the latest products in modern electro-physiotherapy equipment.

The W. B. Saunders Company, medical publishers, will be represented in space No. 34. They will have a number of recent works and new editions of other standard books. Among those to be shown at the meeting are, "Young's Urology," in two volumes; Lillienthal's Thoracic Surgery, two volumes; Moynihan's Abdominal Surgery, in two volumes; Bickham's Surgery, in six volumes; Abt's Pediatrics, in eight volumes; Cabot on the "Heart," Anders & Boston, "Diagnosis." You are given a most courteous invitation to visit the booth and look these works over and see the general line on display.

The Ciba Company of New York City will exhibit their well known products in booth No. 6. Although they will have a large number of their products on exhibition, special emphasis might be made on a few of these preparations: Digifoline, "Ciba," Dial, "Ciba," Lipiodine, "Ciba," Coramine, "Ciba," Agomensin, "Ciba," and Sistomensin, "Ciba" will be of interest to the profession. They will be glad to greet their friends at the meeting and explain their products.

The Hanovia Chemical and Manufacturing Company will greet their friends at booths Nos. 39 and 40. They will exhibit their standard Quartz lamps, The Alpine Sun, Kromayer and Luxor, together with an addition to the family, a radiant heat lamp, the "Sollux," both the floor stand and desk types. They will also feature a new self-suspending portable unit, combination type, a unit with many unique features that will be of particular interest to the physician. Experienced members of their staff will be on hand and give any explanations that may be desired, and give literature on their products.

Horlick's Malted Milk Corporation of Racine, Wisconsin, will exhibit at Booth No. 14. The manufacturers of Horlick's, the original malted milk, are planning to present valuable and interesting facts, dem-

onstrating its unique value as a modified food. "Horlick's" is said to be far more nutritious and digestible than plain milk and therefore of special service in typhoid and other wasting diseases, as well as for infants, expectant and nursing mothers, convalescents and the under-nourished.

Roentgenologists and Physical Therapists will find the exhibit of the Victor X-Ray Corporation very interesting and well worth visiting. Several of the latest developments of the Engineering and Research Laboratories will be featured.

Three recent additions to the Victor line of X-ray equipment will be of special interest: the Stabilized X-Ray Timer (especially adapted for "flash" radiography), the Vertical Stereo-Radiographic Unit with Automatic Tube Shift and the Motor-Drive Roentgen Table—all major contributions to the advancement of roentgenology. Every physician observing the trend of physical therapeutics should take this opportunity to look over the Victor line of Diathermy apparatus (both medical and surgical), also the distinctive features in Victor Ultra-Violet Quartz lamps, the Wantz Multiple Wave Generator for galvanic and sinusoidal therapy, and Victor Phototherapy Lamps. They are all designed according to the most exacting requirements of the physician and in view of approved physical therapeutic methods.

The White-Haines Optical Company of Columbus, Ohio, will have an exhibit of scientific instruments such as the Slit Lamp, Clason Visual Acuity Meter, Ophthalmoscopes, Retinoscopes, Ophthalmic Lenses, such as Softlite, Punktals, and a complete exhibit on a general optical line. This exhibit should be of unusual interest to all eye specialists, as well as to physicians in general and special practice, as many of the appliances will aid physicians in general diagnostic work.

Swan-Myers Company of Indianapolis will in their exhibit feature the educational side of the treatment of hay fever with pollen extracts. A new skin test will be shown, which makes it easy for the physician who handles only a small number of hay fever cases each year to give his patient the best service obtainable. The new ampoules of 50 per cent dextrose solution will be on display. A full assortment of the mercurials will be included. Newer products which have a particular advantage over the older ones, will be a feature of the exhibit.

The Standard Oil Company of New Jersey will feature their "Nujol," "Cream of Nujol" and "Mistol." Cream of Nujol, a new product, is a white emulsion with an agar combination and is a favorite with children and adults with an aversion to oil. Nujol is a standard, reliable product which is known to all the profession. Mistol is rapidly gaining in popularity with the progressive nose and throat men, in spite of the fact that it is not even advertised in medical journals, its only presentation occurs in a "sample way" at professional meetings. The Nujol Laboratories will be represented by Dr. E. F. Hitchcock, M.D., Ph.D., who is well known in this capacity

to a large and constantly extending circle of professional friends.

The De Puy Manufacturing Company of Warsaw, Indiana, will exhibit their line of De Puy X-Ray Splints. The exhibit will be in charge of their Illinois representative, Mr. Bates, will be pleased to meet all members and visitors to the meeting, and show the new features that have been recently added. The De Puy product is the result of doing one thing and doing it well for a period of 25 years. Their slogan is "We have a splint for every splint requirement."

There will be exhibits from a number of other companies, not mentioned in this review. They will be noted in detail in the next issue of the JOURNAL and also in the printed program to be distributed at the meeting.

THE CHILDREN OF RUSSIA REVERTING TO THE WAY OF THE JUNGLE

LENINE'S WIDOW RIDDLES THE OFFICIAL EXCUSES
FOR DOING NOTHING

CHILDHOOD IN COMMUNIST RUSSIA

A recent dispatch from Moscow telling of pillaging of cities by children told a tale of terror that imagination did not exceed in "A Tale of Two Cities," "Les Miserables" or "The City of Dreadful Night," and drew as damning an indictment against applied communism as its bitterest antagonist could devise.

American relief workers estimate that Russia has at least 2,000,000 orphans, most of whom are under 13 years of age and lack means of support. The social system of communism makes orphans of Russian children even when they have parents, and if word from Moscow is true, these have become human wolves, living by rapine, reverting to the way of the jungle, swarming together in huge hoards, without wish to be rescued.

The soviet press says this situation exists not only in Moscow, but in Caucasia, Ukrainia and other places in southern Russia. Letters from subscribers to papers characterize the condition as "this shame of our socialist state." Lenine's widow writes that the ministry of education has failed to handle the evil in the right way, and she riddles the official excuse for doing nothing.

The multitude of homeless children increases daily. For each derelict deposited in some reformatory or asylum at least two flock to the city, either from the farm or from state institutions for children. No expenditure, no enact-

ment, no administration can solve the problem speedily. The proletarian dictatorship that aims at banishing religion, destroying the family and the home and making the school the nursery of communism has laid foundations of rotten straw for Russia's future.

THE LOOSE SCREW TAX

MME. KOLLANTAY AGAIN SPOUTING RUSSIA
BOLSHEVIC ROT

Moscow, Feb. 11.—Discussing proposed changes in the soviet marriage code, Mme. Kollantay, Russia's militant woman ambassador to Norway, suggests the creation of an "alimony fund" derived from direct taxation of all men in the country, out of which abandoned mothers and their babies may be supported.

This, she says, would be a much less degrading form of support than the existing plan which makes it obligatory for divorced fathers to provide for their former wives and offspring.

Mme. Kollantay asserts that for the peasantry marriage represents a real producing factor, because the country woman helps her husband to produce goods, whereas, for the manual workers, matrimony means only a consuming element, in that the city woman only helps her spouse to consume what he earns.

On the theory that social conditions in Russia vary widely, she proposes that the conditions of the marriage contract should also vary for different classes. She would have one contract for peasants, another for manual workers, and a third for soviet officials, with different requirements for each category.

THE MATERNITY ACT NOT ONLY SHOULD NOT BE EXTENDED—IT SHOULD BE REPEALED SENTINELS APPEAL FOR REJECTION OF MATERNITY ACT

The Sentinels of the Republic have sent the following letter to the Chairman and members of the Senate Committee on Education and Labor:

February 3, 1926.

Senator Lawrence C. Phipps, Chairman, Committee on Education and Labor, United States Senate, Washington, D. C.

"Dear Sir:

"The pending bills (H. R. 7555—S. 2696) to extend the term of the Maternity Act seek

to perpetuate the power of the Children's Bureau, whose further aggrandizement was thwarted when the States rejected the proposed Child Labor Amendment.

"The Maternity Act embodies all that is vicious in Federal Aid Legislation. Its declared purpose is cooperation with the States in 'promoting the welfare and hygiene of maternity and infancy'—whatever that may mean. This cooperation is effected by an annual appropriation out of the Federal treasury of \$1,000,000, which is apportioned among those States which accept the Act and appropriate equal amounts. By such acceptance each State agrees to appoint a State agency which shall submit to the Children's Bureau plans for carrying out the provisions of the Act subject to Federal approval, and shall cooperate with the Children's Bureau in the execution and enforcement of those plans. Thus in effect a bribe of Federal funds is offered to State legislatures to induce them to surrender to Federal authority the sovereign right of every State to administer its own local affairs without supervision by Federal officials, and control over the subject matter of the various plans which are proposed and approved is confided to the Children's Bureau in Washington.

"Because of this attempted usurpation of the power of local self-government, reserved to the States by the Tenth Amendment, the Maternity Act is, in our opinion, plainly unconstitutional. The Supreme Court of the United States in the Maternity Cases (262 U. S. 447) expressly declined to sustain the Act as valid, basing their decision on points of jurisdiction. The attempt to support the Act by a perverted interpretation of the so-called 'General Welfare' clause of the Constitution, in the face of expressed declarations of the Supreme Court in earlier cases showing the true interpretation of that clause, cannot be taken seriously.

"Under this statute the citizens of every State which declines to yield to Congress its right to exercise its sovereign power to legislate as it thinks best for the welfare of its people are taxed to pay the appropriation for the States which receive them, while the citizens of States which accept the Act are taxed for those appropriations and also for the State appropriations which are required to match the Federal. The gainers are the bureaucrats, whose power and resources are greatly increased by the Act.

"The President in his recent message to Congress said:

"The functions which the Congress are to discharge are not those of local government but of national government. The greatest solicitude should be exercised to prevent any encroachment upon the rights of the States or their various political subdivisions. Local self-government is one of our most precious possessions. It is the greatest contributing factor to the stability, strength, liberty and progress of the nation. It ought not to be influenced by assault or undermined by purchase. It ought not to abdicate its power through weakness or resign its authority through favor. It does not at all follow that because abuses exist it is the concern of the Federal Government to attempt their reform. Society is in much more danger from encumbering the national government beyond its wisdom to comprehend, or its ability to administer, than from leaving the local communities to bear their own burdens and remedy their own evils."

"There is no legislation by Congress to which these remarks are more exactly applicable than to the Maternity Act. The American people have made it plain to Congress that they are overwhelmingly opposed to Federal care or control of their children. Congress, we are confident, will be responsive to the suggestion, thus adequately expressed by the people in the rejection of the Child Labor Amendment and the refusal of several States to accept even offered gifts under the Maternity Act, that Federal paternalism should be restrained rather than extended. Congress also should recognize constitutional limitations upon its own authority and willingly curtail Federal activities to those which are necessary and appropriate to the exercise of the powers and prerogatives expressly delegated to the Federal Government. Mistakes have been made in the past. Congress should rectify those mistakes by repealing unconstitutional provisions not by perpetuating them. The Maternity Act not only should not be extended—it should be repealed.

"Respectfully submitted,

(Signed) "BENTLEY W. WARREN,

"President and Chairman, Board of Directors;

"ALEXANDER LINCOLN,

"Director;

"THOMAS F. CADWALADER,

"Chairman, Executive Committee."

HOW THE SHEPPARD-TOWNER ACT DOESN'T WORK OUT IN INDIANA

Brooklyn, N. Y., Feb. 18, 1926.

Editor Journal of the Indiana State Medical Association, Fort Wayne, Indiana.

Dear Sir:

My attention has been called to "Public Health in Indiana" at page 75 of the Feb. 15, 1926, issue of the *Journal* (Vol. XIX, No. 2) wherein the Secretary of the Indiana State Board of Health recites some commendable reductions in the death rate from tuberculosis, typhoid, diphtheria, scarlet fever, etc., and deplores the increase in cancer death rate and the loss of life by automobile accidents but stresses the failure of Indiana to modify downward the deaths of women from puerperal causes until outside interference in the shape of the Sheppard-Towner Maternity Bill became operative in Indiana in 1922 and he quotes some figures and alleges that 400 mothers have been saved which, at the Indiana court-valuation (or, as he calls it, "statutory valuation") of \$5,000, would mean \$2,000,000 "to the credit of applied knowledge and effort in the Hoosier ledger. . . in mothers saved to their children and the State." The statistician slipped up a bit; if the 1920 rate had persisted during those five years (485 total deaths per annum) the grand total would be 2,425. . . The statistician holds that no change occurred in 1921 but that the total 1922 deaths were 403, the 1923 deaths 392 and the 1924 deaths 264, making a grand total of 2129, or a net saving of only 296 mothers in three years at \$5,000 per mother, making the apparent saving in DOLLARS to the State of Indiana of \$1,480,000.

Since the real argument among the advocates of the Sheppard-Towner Maternity Bill is "dollar economy" to meet opposition to the increased taxation from those 50-50 Federal Aid measures and to dwarf the significance of the Sheppard-Towner Maternity Bill in particular as a means to the limitation of population by the opportunity for the whispered word from the Bother-some Berties and Meddlesome Matties of the Children's Bureau of the Department of LABOR communicating the "Hygiene of Infancy and the Hygiene of Pregnancy and OTHER PURPOSES," according to the title of the Bill; since we are to talk in DOLLARS, supposing we see

what the population of the State of Indiana has done to the BABIES! to those upon whom Indiana must in the future depend if it is to continue to be Indiana; suppose we see whether Indiana has saved or lost—DOLLARS.

Obviously if the death rate of Mothers is 14.5 per 100,000, as the article in question says, or 485 total deaths, the population of Indiana must be: 14.5: 485:: 100,000: x (population) or 3,344,828, so we have:

1920	14.5	485	3,344,828
1921	14.5	485	3,344,828
1922	13.4	403	3,007,463
1923	13.0	392	3,015,385
1924	11.8	364	3,084,746

Obviously, too, Indiana had no such fluctuation in population as the statistics of Dr. King's report appear to yield; suppose we take an average of those five and call the population 3,159,450; if Indiana did not budge its birth rate from the "22.0 to the 1000 of population" (1920) as the census bureau had it in the Public Health Reports (U. S.), then Indiana in 1924 should have had 69,507 births. . . But the Census Bureau says that in 1924 Indiana had only 67,842 births, therefore, the deduction is warrantable that the "cockle" sown by the Bothersome Berties and Meddlesome Matties of the Children's Bureau of the Federal Department of Labor teaching the "other purposes" of that maternity bill, "growing up hath choked the seed of 1665 babies" preventably controlling their birth and robbing Indiana of 1,665 times what the statistician calls the "statutory value of a person of whatever age, as placed upon him by the courts" (\$2,000) or a total LOSS of \$3,330,000—from which we may subtract the \$1,480,000—gained by the saving of 296 mothers in three years, first dividing it by THREE to get 1924's share, and we find the net loss in DOLLARS to the State of Indiana in 1924 (\$3,330,000 minus \$493,000) or \$2,837,000!

Nor is that all. During those three years the citizens of Indiana have been taxed \$181,032, which brings the DOLLAR loss up to \$3,018,032.

Nor is that all. Out of this \$181,032 State and Federal taxes (\$107,031 Federal and \$74,001 state "matching") Indiana was only permitted the use of \$166,032, because \$4,155 was the

rake-off of the "Children's Bureau of the Federal Department of Labor" as part of the \$50,000. Administration Fund (per annum) while \$10,875 went to pay nearly one-half of the amount that Maine received over and above the amount of its contribution—or almost one-third of the amount which Wyoming receives over and above the amount paid in. Oh! How the proud spirit of the founders of this Nation must squirm as they look out of the windows of Eternity and see 20 major, progressive and fruitful States (including Indiana) initiated into the Ancient and Pitiable Order of Goats by the operation of a Sheppard-Towner Maternity 50-50 Law while 28 Minor States, with a population less than the Average-State-Population are made Parasites by the same Law, sponging one dollar for every four used within the State, "panhandling" two bits to the dollar!

I would have the Citizens of Indiana, Medical and Lay, understand that a Statistician can make thirty cents look like a dollar or a dollar look like thirty cents, depending upon which side his bread is buttered. . . But this baby-loss; this loss of possible Indiana citizens to carry it on in the years to come is a concrete and understandable and natural result of this Sheppard-Towner Maternity Bill. . . The U. S. Public Health reports show a loss in the Nation's birth-rate of 2.4 to the 1000 of population during the five years' experimental operation of that Sheppard-Towner Maternity Bill, and the State of Montana, after an intensive campaign by these Bothersome Berties and Meddlesome Matties among the women of that State, covering those five years, is in the unenviable position of having the lowest birth-rate in the Nation. Yet in the face of these facts a bill is before the present Congress to extend the operation of the Sheppard-Towner Maternity Law TWO YEARS. It is up to Indiana not to be misled by inaccurate and incorrect statistics and false doctrines but to KILL that bill and set about reducing the death rate from puerperal causes with the same zeal and devotion that has made possible the reduction in the death rates of tuberculosis, typhoid, etc., etc., WITHOUT a 50-50 Federal Aid Tuberculosis Bill or Typhoid Bill or what not.

Sincerely,

JOHN J. A. O'REILLY, M. D.

Indiana State Medical Journal, March, 1926.

THE SHEPPARD-TOWNER ACT AND ENCROACHMENT UPON STATE RIGHTS IN HEALTH MATTERS STATE AID THE FEDERAL CONTROL OF EDUCATION

WASHINGTON BUREAUCRATS CLOTHED WITH LEGISLATIVE, EXECUTIVE AND JUDICIAL POWERS

State Aid propagandists have not been content with the octopus-like growth of their pet. Encroachments upon state rights in health matters and numerous other activities are insufficient for their unsatisfied appetite. They are now out after federal control of education; the primary object of the Sheppard-Towner Maternity Bill was for federal control of medicine and the care of the sick.

The leading Constitutional lawyers of the country are all alert to the dangers of over-centralization of power at Washington. The ILLINOIS MEDICAL JOURNAL was the first to call the attention of the physicians and public to this rapidly growing menace. The system is now being condemned by most of the leading educators and practically all the country's statesmen. In no phase of human endeavor is the menace more dangerous than when applied to the care and supervision of the health and welfare of the people.

With the Hon. Edward P. Buford, President of the Virginia Bar Association, we believe

That the concentration of power in Washington through the multiplication of the administrative bureaus under a perverted interpretation of the general welfare clause, is the most far-reaching and dangerous of modern legislative tendencies.

The Sheppard-Towner Maternity Act, and the Curtis-Reed Bill (Educational Bill S. 291—H. R. 5000) now pending in Congress are conspicuous illustrations of this method of federal usurpation.

If measures of this character are legitimate exercises of federal power, there is no limit to the possibility of federal exploitation. Every conceivable form of governmental activity may be subsidized by federal taxation, medicine included, and the number of federal office holders be indefinitely increased. To illustrate the latter point, we call your attention to the fact that

there are 2,700,000 employees on the payroll of the Federal and Local Governments of the United States, and 700,000 former employees drawing pensions. In 1860 one person in every thousand population was on the public payroll; in 1895 the ratio had increased to one in one hundred, and today, every group of 11 citizens are supporting one person on the government payroll.

Under the practice now prevailing, new bureaus are created and the power of legislation is delegated to them. They are given authority to write the laws they are to administer and to change them at pleasure. In other words, they are clothed with full legislative and executive powers and to some extent with judicial powers. In other words, these bureau heads are judge, jury and prosecuting attorney, all the powers being delegated to the one person.

THE BUREAUCRATS SHOULD BLUSH FOR SHAME—THE SERVICES WERE LARGELY DONATED BY DOCTORS

Two years' work under the Sheppard-Towner Law shows that for the millions of dollars of taxes expended in carrying out its provisions the people purchased:

- 26,353 child health conferences;
- 594,136 babies examined;
- 9,669 prenatal conferences held;
- 74,659 mothers advised;
- 1,706 infant welfare stations established;
- 245 prenatal centers established;
- 39,910 midwives instructed;
- 162,073 mothers attending mothers' classes;
- 5,476 little mothers' classes organized.

Aside from the intelligent medical service included here, which was largely *donated* by doctors, the figures are not conducive to enthusiasm.

The encouragement, impetus and added strength these bureaucrats have given to the practice of medicine by midwives ought to cause them to blush for shame.

BEWARE OF SWINDLING COLLECTING AGENCIES

Many letters have been received asking for suggestions as to ways and means for curbing dishonest collecting agencies. Our first sugges-

tion is that the medical profession should use more care in turning accounts over to agencies whose only qualification is a pleasing manner and a glib tongue. If this glib tongue gentleman were to ask the doctor for five dollars in cash he would be put out of the office, yet nothing is thought of turning over hundreds or even thousands of dollars worth of old accounts. These accounts are readily collectible, in many instances.

The usual method of operation by the silk-tongued collector is to go to a business or professional man and to represent himself as a stockholder or part owner in the agency that employs him. He promises immediate results on a 10 per cent. commission basis and urges clients to give him a list of accounts, no matter how old. After writing the names on a prepared blank he asks the doctor to sign his name, ostensibly for certifying that the accounts are correct.

The client learns later when he reads his copy the first time that the list he signed is a binding contract assigning all claims over to the agency and the contracts call for docket fees. In this way the doctor immediately becomes indebted to the collecting agency in the sum of fifty cents a name for all accounts turned over. Unless the client can prove fraud in the transaction (which is almost impossible), the contract is upheld by the courts.

Five or six years ago the ILLINOIS MEDICAL JOURNAL and the *Bulletin of the Chicago Medical Society* in several long articles warned doctors against turning claims over to a certain agency.

This article stated that the agency in question did not remit to clients and sued for commission on money paid to creditors even when said agency had nothing to do in compelling payment from debtors. The agency won their cases in court on the wording of the contract which was signed but never read by the client.

This agency and many others of its kind are still in business, their so-called contract is being signed every day by gullible professional and business men, who do not take the time to even glance over it before signing. The doctor reads his copy when it is too late to protect himself against fraud.

We are asked to suggest a remedy. We confess we have no panacea. We do suggest that in

future the physicians of the state transact business in a businesslike way, that is, read over contracts of assignment of accounts before placing signature thereupon. There are many legitimate collecting agencies. Concerns that are doing business in a legitimate way must not be blamed for the professional man's lack of business discretion. Swindlers, like quacks, have always been with us and no doubt will be here to pester mankind until the end of time.

QUACKS CAN ONLY BE PROSECUTED BY THE STATE'S ATTORNEY

Letters deluge this office requesting this JOURNAL and its editor to prosecute some especial chiropractor or other cultist for practicing medicine without a license.

Legal authority and machinery for enforcing the Medical Practice Act is vested in the state's attorney only. There is no such power clothing the officers of the Illinois State Medical Society, nor the editor of the ILLINOIS MEDICAL JOURNAL. Evidently many Illinois physicians think that there is. The slightest legal authority to prosecute quacks fails to rest with officers of the state society or the editor of the JOURNAL. None of these doctors have any jurisdiction over illegal practitioners operating in Illinois. Enforcement of the Medical Practice Act rests with the department of education and licensure at Springfield and this is one of the departments of state government. Prosecution of the violators of the Medical Practice Act must be made by the state's attorneys in the respective counties. Should he care to do so, any county state's attorney could rid his community of quacks and that within thirty days.

The state's attorney of each county should receive complaints from physicians irritated because of the operation of chiropractors and members of other cults. State's attorneys in each county should be compelled to prosecute violators of the Medical Practice Act in accordance with the provisions of the law given to state's attorneys.

Let attention of the medical profession be called again to the fact that officers of the state society are not vested with legal authority to prosecute violators of the Medical Practice Act.

It is up to the state's attorneys of the counties of the commonwealth.

LABEL A MEASURE "WELFARE BILL"
AND IT WILL RECEIVE WIDE AND
UNQUESTIONING SUPPORT
DESPITE INHERENT
OBNOXIOUSNESS

An age of sentimentality oppresses sanity. Complete lack of common sense, begotten of feminism run amuck and maudlin sentimentality affects various movements that are supposed to be capable of producing the millennium through what is called "reform" and general "welfare."

The wave of cheap emotionalism deluging the country brings in its train a crisis demanding caution and thoughtfulness in the extreme, where medical, sociological and economic questions are concerned.

Paternalism runs rampant. The tenet of the day appears to be "Whatever is, is wrong." Results are not gauged. Change, no matter what the cost, is assumed to be synonymous with progress.

Label any public measure "Welfare bill" and at once wide and unquestioning support with complete disregard of possible merit or demerit follows in its wake. In the esteem of a deluded public are exalted unscrupulous politicians, office seekers and professional agitators who palpably exploit propaganda of this nature.

To urge sanity and caution or to dare to protest against pointed injury to private rights and interests has come to mean receiving the brand of reactionary or villification as a selfish opponent of progress. Propaganda knows no law. To gain an end, facts, experience, common sense, economic laws, suitability of means to ends, and traditional principles of government are ignored, disputed, falsified and treated with contempt.

THE HARRISON NARCOTIC ACT UN- CONSTITUTIONAL

A RECENT U. S. SUPREME COURT DECISION INSINUATES THAT IT IS

Dr. W. C. Woodward, executive secretary, Bureau of Legal Medicine, of the American Medical Association, summarizes the Supreme Court decision in *Linder vs. United States*, as it effects the Harrison Narcotic Act. The summary was published in *California & Western Medicine*, March, 1926. We quote:

Many physicians and other citizens are keenly interested in the full meaning of the decision (April 13, 1925,) of the United States Supreme Court construing the Harrison Narcotic Act in *Linder vs. United States*. So much disturbance was caused by an exciting story of this decision, published in the bulletin of the "White Cross," that at our request Dr. Woodward prepared for us the following useful analysis of the whole question:

The decision referred to in your letter of February 2, construing the Harrison Narcotic Act, is that of the United States Supreme Court in *Linder vs. United States*, decided April 13, 1925. That decision is as binding in California as in any other part of the United States. It will undoubtedly add to the difficulties of enforcing the Harrison Narcotic Act, but it helps to clear up a situation often embarrassing to the physician and tends to relieve him of bureaucratic control.

Treasury Department Regulations No. 35, relating to the importation, manufacture, production, compounding, sale, dispensing, and giving away of opium or coca leaves, their salts, derivatives, or preparations thereof, promulgated under the Harrison Narcotic Act, provide, among other things, as follows:

"Article 117. . . An order purporting to be a prescription issued to an addict or habitual user of narcotics, not in the course of professional treatment in an attempted cure of the habit, but for the purpose of providing the user with narcotics sufficient to keep him comfortable in maintaining his customary use is not a prescription within the meaning and intent of the act; and persons filling and receiving drugs under such an order, as well as the person issuing it, will be regarded as guilty of violation of the law."

Color was given to the supposed validity of this regulation or instruction by decisions of the United States Supreme Court, namely, *U. S. vs. Doremus*, 249 U. S. 93; *Webb vs. U. S.*, 249 U. S. 96; *Jin Fuey Moy vs. U. S.*, 254 U. S. 189, and *U. S. vs. Behrman*, 258 U. S. 280. These decisions were generally construed as preventing a physician from giving narcotics for the relief of the sufferings of an addict incident to the withdrawal or insufficiency of his supply of narcotics, except as an incident to the cure of the habit and even then only when the patient was in confinement. The result has been that no matter how acute the sufferings of an addict might be, incident to the partial or total withdrawal of his drug, the average physician was afraid to do anything for his relief, lest he be summoned into court and held up to public obloquy as a "dope peddler."

There now comes into the case one Charles O. Linder, of Spokane, Washington. Linder is recorded in the American Medical Directory as having graduated in 1905 from the Thompsonian Medical College, of Allentown, Pennsylvania, concerning which the directory records: "Organized in 1904. Extinct. No evidence to show that classes were ever held." Linder, however, appears to have been registered in the state of Washington in 1920. The facts of the case seem to be sufficiently stated in the opinion of the court, where they are quoted from the indictment.

They charge Linder with a violation of the Harrison Narcotic Act on about April 1, 1922, at Spokane—"in that he did then and there knowingly, willfully and unlawfully sell, barter and give to Ida Casey a compound, manufacture and derivative of opium, to-wit: one (1) tablet of morphine and a compound manufacture and derivative of coca leaves, to-wit: three (3) tablets of cocaine, not in pursuance of any written order of Ida Casey on a form issued for that purpose by the Commissioner of Internal Revenue of the United States; that the defendant was a duly licensed physician and registered under the act; that Ida Casey was a person addicted to the habitual use of morphine and cocaine and known by the defendant to be so addicted; that Ida Casey did not require the administration of either morphine or cocaine by reason of any disease other than such addiction; that the defendant did not dispense any of the drugs for the purpose of treating any disease or condition other than such addiction; that none of the drugs so dispensed by the defendant was administered to or intended by the defendant to be administered to Ida Casey by the defendant, or any nurse, or person acting under the direction of the defendant; nor were any of the drugs consumed or intended to be consumed by Ida Casey in the presence of the defendant, but that all of the drugs were put in the possession or control of Ida Casey with the intention on the part of the defendant that Ida Casey would use the same by self-administration in divided doses over a period of time, the amount of each of said drugs dispensed being more than sufficient or necessary to satisfy the cravings of Ida Casey therefor if consumed by her all at one time; that Ida Casey was not in any way restrained or prevented from disposing of the drugs in any manner she saw fit and that the drugs so dispensed by the defendant were in the form in which said drugs are usually consumed by persons addicted to the habitual use thereof to satisfy their craving therefor and were adapted for consumption."

Linder was convicted in the District Court, Eastern Court of Washington. His conviction was affirmed by the Circuit Court of Appeals for the Ninth Circuit. On a writ of certiorari, Linder carried the case to the United States Supreme Court. The decision of the court may be regarded as explaining through the written opinion, and as undertaking to clarify, its previous decisions.

The court quoted from its decision in *United States vs. Behrman*, 258 U. S. 280, and differentiated that case from the Linder case, in the following language:

"It may be admitted that to prescribe a single dose or even a number of doses, may not bring a physician within the penalties of the act; but what is here charged (in the Behrman case) is that the defendant physician by means of prescriptions has enabled one, known by him to be an addict, to obtain from a pharmacist the enormous number of doses contained in 150 grains of heroin, 360 grains of morphine, and 210 grains of cocaine—three thousand ordinary doses!

"This opinion related to definitely alleged facts and must be so understood. The enormous quantity of

drugs order, considered in connection with the recipient's character, without explanation, seemed enough to show prohibited sales and to exclude the idea of bona fide professional action in the ordinary course. The opinion cannot be accepted as authority for holding that a physician, who acts bona fide and according to fair medical standards, may never give an addict moderate amounts of drugs for self-administration in order to relieve conditions incident to addiction. Enforcement of the tax demands no such drastic rule, and if the act had such scope it would certainly encounter grave constitutional difficulties."

The court then proceeded:

"The Narcotic Law is essentially a revenue measure and its provisions must be reasonably applied with the primary view of enforcing the special tax. We find no facts alleged in the indictment sufficient to show that petitioner had done anything falling within definite inhibitions or sufficient materially to imperil orderly collection of revenue from sales. Federal power is delegated, and its prescribed limits must not be transcended even though the end seems desirable. The unfortunate condition of the recipient certainly created no reasonable probability that she would sell or otherwise dispose of the few tablets entrusted to her; and we cannot say that by so dispensing them the doctor necessarily transcended the limits of that professional conduct with which Congress never intended to interfere."

The decision in *Linder vs. United States*, just quoted from at some length, obviously does not give a physician free rein in the prescribing of narcotics. Section 2 of the Harrison Narcotic Act makes it unlawful for any person to sell, barter, exchange, or give away any of the narcotic drugs covered by the act, except in pursuance of a written order of the person to whom such article is sold, bartered, exchanged, or given, on a form to be issued in blank for that purpose by the Commissioner of Internal Revenue. Then follows an exception, providing that nothing contained in the section shall apply:

"To the dispensing or distribution of any of the aforesaid drugs to a patient by a physician, dentist, or veterinary surgeon registered under this act in the course of his professional practice only. . ."

Construing this exception, the Supreme Court of the United States said in *Jin Fuey Moy vs. United States*, 254 U. S. 189:

"Manifestly the phrases 'to a patient' and 'in the course of his professional practice only' are intended to confine the immunity of a registered physician, in dispensing the narcotic drugs mentioned in the act, strictly within the appropriate bounds of a physician's professional practice, and not to extend it to include a sale to a dealer or a distribution intended to cater to the appetite or satisfy the craving of one addicted to the use of the drug. A 'prescription' issued for either of the latter purposes protects neither the physician who issues it nor the dealer who knowingly accepts and fills it."

As I see the situation, a physician may lawfully

prescribe to relieve the acute sufferings of an addict due to the partial or total withdrawal of the drug to which he is addicted, or may even give a reasonable amount of that drug to the patient. He may not, however, supply more than is necessary to relieve the acute condition of the patient, nor, I believe, can he continue daily to supply enough to relieve such acute conditions as they arise from day to day. Nor can a physician, I believe, lawfully prescribe even to relieve the sufferings of an addict who he believes is using those sufferings for the purpose of obtaining supplies of narcotic drugs from two or more physicians. The distinction is to be drawn between prescribing or dispensing to relieve acute suffering, and prescribing or dispensing merely to cater to the appetite. If a physician prescribes or dispenses merely to cater to the appetite, he is violating the Harrison Narcotic Act; but the difficulty in these cases for the prosecuting officers to convince the jury beyond a reasonable doubt that the physician prescribed for that purpose and not for the relief of acute suffering. Of course, the prescribing or dispensing of enormous doses, or the receipt in prescribing or dispensing, would be evidence in support of such a charge.

Nothing in the Harrison Narcotic Act nor in any of the decisions based on that act has taken from the states the right to enact any legislation on the subject of narcotic addiction that is authorized under the state constitutions, provided, of course, it does not actually tend to nullify the Harrison Narcotic Act.

I have had to go at great length into this case, because otherwise it seemed impossible to convey a clear idea of the situation. It has not seemed to me desirable to take up the article in "The White Cross," which is so inaccurate and so strewn with partial statements of the truth as to convey what seems to me to be an entirely wrong idea of the situation.

Incidentally, the Harrison Narcotic Act itself is in danger, under a decision rendered by the United States Supreme Court, January 4, 1926, in *U. S. vs. Daugherty*. In that case the court said:

"The constitutionality of the Anti-Narcotic Act, touching which this court so sharply divided in *United States vs. Doremus*, 249 U. S. 86, was not raised below and has not been again considered. The doctrine approved in *Hammer vs. Dagenhart*, 247 U. S. 251; *Child Labor Tax Case*, 259 U. S. 20; *Hill vs. Wallace*, 259 U. S. 44, 67, and *Linder vs. United States*, 268 U. S. 5, may necessitate a review of that question and is hereafter properly presented."

The case included held the Child Labor Law unconstitutional and also the law involving the taxing of certain grain exchange transactions. The statement just quoted from *U. S. vs. Daugherty* is apparently a broad intimation that if the question of the constitutionality of the Harrison Narcotic Act again comes before the court, while constituted as at present, the decision will be against its constitutionality.

Yours truly,

W. C. WOODWARD, *Executive Secretary*,
Bureau of Legal Medicine and Legislation.

THE PROHIBITIVE COSTS OF BABIES

ONE MILLION BABIES VS. THE MILLION PASSENGER AUTOMOBILES

Birth controllers may view with glee the essays now appearing in periodical literature pointing out the prohibitive costs of babies. It's a sad song as it is being sung, but the singers would elevate the quality of their music if they would compare the cost of babies with the costs of their avoidance rather than with the cost of motor cars.

One recent writer, after painfully building up the costs of birth and early care of a baby to some \$500 and placing the blame therefor upon those who serve, and offering these excessive costs as the reason there were only 1,792,646 births recorded in the United States in 1923, shows in the same paragraph that 3,637,216 passenger automobiles were sold during the same year.

Now there is logic and consistency for you to the nth degree. Who in this day would think of assuming the responsibilities, duties and pleasures of parenthood when for only a few more dollars they can purchase a motor car?

Our statisticians, who salve their consciences with their budget making, are careful to swell the costs of birth by adding the costs of after-care of mother and baby, but they compare these costs with the naked motor car without anything for extras or upkeep, even then there does not appear to be any defensible reason why people who pay for nearly four million motor cars cannot pay for half that number of babies at a quarter of the price.

Babies *are* expensive, but if the luxuries demanded by society are eliminated and only essentials considered, the increase in cost has not kept pace with increase in the cost of potatoes, clothing or shoes. Even at the present prices, producing babies is the least expensive end result of sexual indulgence, except for the itinerant polygamist who accepts his pleasures where he finds them and never mind the consequences. Even he or she certainly pays more in the long run than all the costs of decent, legalized monogamous sexual indulgence and its normal products. Practitioners of contraception and abortiception don't work for nothing. Some of their fees are said to rival those of the most

soulless obstetricians. Then there is the question of danger to health and life. More illness and more deaths are traceable to contra- and aborticeptionists than are incident to normal child-birth, and they are more expensive financially and otherwise.

Moral: Many budget makers and social economists are stupid asses or astute propagandists. —*Cal. & Western Medicine.*

DEATH RATE AMONG PHYSICIANS

The death rate among the 147,010 physicians in the United States last year was 17.22 per thousand, according to a current issue of the *Journal* of the American Medical Association. It is estimated that 2532 physicians died within the United States last year.

Of the 2448 deaths recorded by the *Journal* last year, 21 were under 30 years of age; 119 between 31 and 40 years; 368 between 41 and 50 years; 560 between 51 and 60 years; 665 between 61 and 70 years; 489 between 71 and 80 years; 207 between 81 and 90 years; and 18 between 91 and 99. One death was reported at 107 years of age.

Causes listed as follows: diseases of circulatory system, 872; respiratory system, 278; genito-urinary system, 227; digestive system, 108; and cancer 118.

The *Journal* says: "Among the physicians who died in 1925, there were 137 who served in the World War; 82 who were Civil War Veterans, and 23 who were Spanish American War veterans.

There were 18 who had been members of state legislatures; 83 members of boards of health; 54 members of boards of education; 9 members of boards of medical examiners; 18 mayors of cities; 26 coroners; 5 postmasters; 15 authors; 2 editors; 10 bank presidents; 4 lawyers; 4 dentists; 21 druggists; and one missionary."

RADIOLOGICAL MEETING

There will be a joint meeting of the Central Illinois Radiological Society and the Chicago Roentgen Society at the Knights of Pythias Hall, Champaign, on Tuesday, May 18, 1926, at 1:30 P. M.

Central Illinois Radiological Society

Harold Swanberg, President, Quincy.

W. Blaine, Vice-President, Springfield.

H. C. Kariher, Secretary-Treasurer, Champaign.

Chicago Roentgen Society

E. L. Jenkinson, President, Chicago.

I. S. Trostler, Vice-President, Chicago.

E. S. Blaine, Secretary-Treasurer, Chicago.

PRELIMINARY PROGRAM

1. The X-Ray Treatment of Carbuncle—H. A. Chapin, Jacksonville.
2. Bone Pathology—E. L. Jenkinson, Chicago.
3. Focal Infection (by special invitation)—E. C. Samuel, M. D., New Orleans.
4. The Condition Called Perthes' Disease—E. G. C. Williams, Danville.
5. X-Ray Diagnosis of Appendicitis With Special Reference to Peristalsis—M. J. Hubeny, Chicago.
6. Subject to be announced—C. J. McCullough, Decatur.
7. The Reaction of the Pancreas to X-Rays—A. C. Ivy, M. D., and B. H. Orndoff, M. D., Chicago.

Every ethical physician is cordially invited to attend this meeting. Immediately following the scientific program there will be a short but very important business session, and every Radiologist in Illinois is especially urged to be present. Arrangements are also being made for a Radiological dinner at 6:00 P. M. on the same date.

ANNOUNCEMENT

University of Illinois Physicians Extension Courses, June, 1926

The University of Illinois, College of Medicine, will offer post-graduate courses for physicians, in all departments throughout the month of June of this year.

The registration will be limited to a small number of men. In some departments the work will be given throughout the day, in others, only half the day. In some fields the courses will be given six days a week, others only three days or four or five days per week.

The full time registration fee will be one hundred dollars, for half-time registration (or less) fifty dollars. Only one full time course may be registered for.

For detailed circular of information concerning courses and registration address Secretary Wil-

William H. Browne, 508 S. Honore Street, Chicago, Illinois.

Courses	Days	Hours	Registration
Internal Medicine	Daily	9-12; 2-5	
Neurology-Psychology	Daily	9-12	
Dermatology and Syphilography	3 days a week	2-5	
Surgery	Daily	9-12; 2-5	
Ophthalmology	Daily	9-12; 2-5	
Pathological Conference and Pathology	Daily	9-12	
Röntgenology	Daily	9-12; 2-5	
Pharmacology and Experimental Therapeutics	3 days a week	9-12 or 2-5	
Pediatrics	Daily	9-12; 2-5	
Obstetrics	Daily	9-12; 2-5	

CONFERENCE ON TUBERCULOSIS

Announcement

About 350 people from outside this city and county are expected to attend the Mississippi Valley Conference on Tuberculosis to be held in Chicago June 14 to 17, 1926, at the Edgewater Beach Hotel.

This is the annual sectional conference for the tuberculosis associations in Ohio, Indiana, Illinois, Michigan, Wisconsin, Iowa, Missouri, North Dakota, South Dakota, Minnesota and Nebraska.

Such groups of states meet once a year in the spring in addition to the national conference held in the fall. The National Tuberculosis Association will meet this year in Washington in October and will conduct an international conference in conjunction with its own assembly.

The purpose of the Mississippi Valley Conference will be to discuss present plans and future needs in a program of public health activity that has now become well known everywhere in the United States. It includes many preventive activities which are regarded as even more essential than the curative in the eventual defeat of tuberculosis.

This is the first time in years that the conference has come to Chicago.

The local organization in charge is the Chicago Tuberculosis Institute, 360 North Michigan Boulevard.

MILK INJECTIONS FOR PELVIC INFECTIONS IN WOMEN

Dr. George Gellhorn of St. Louis, Mo., in the March, 1926, number of the *New Orleans Medical*

and Surgical Journal, presented data of far reaching importance. We quote as follows:

The great majority of all diseases of the human race are caused by microbes; and in fact, our entire life is, in a sense, an unceasing struggle of our bodies against the inroad of germs. For thirty years or more our medical thoughts and actions have been governed by the idea of attacking disease by "specific" means, such as vaccines, etc., whereby a direct and selective effect was exerted upon the bacteria. This plan has worked exceedingly well in diphtheria and typhoid, in syphilis and many other ills; but in an even larger number of diseases the results of specific therapy have been either wholly disappointing or, to say the least, uncertain.

NON-SPECIFIC PROTEIN THERAPY

Fortunately, it was discovered more or less accidentally that various proteins, if injected subcutaneously, intramuscularly or intravenously, often exerted a decidedly beneficial effect in many infections even though there was in no case any relation whatever between these agents and the causative bacteria. These clinical observations which soon were supplemented and confirmed by laboratory investigations and experimental studies, crystalized themselves into a definite form of treatment to which the term "non-specific protein therapy" was applied. Though this novel method has been in existence less than ten years, it has already established for itself a legitimate place in almost every branch of practical medicine; and medical literature contains numerous reports of successful treatment of pneumonia and typhoid, of eye and skin diseases, of arthritis and a host of other ailments.

One need not be particularly skeptical to inquire how it is possible that one remedy or one form of treatment can accomplish equally good results in so many different diseases.

To give an answer to such a question, we must go back to fundamental conceptions and realize that recovery from any disease takes place, in its last analysis, in the diseased cell itself. Here is the battle ground where the ultimate outcome of any infection is decided. If the attacking microbes are too strong, the affected cells will die quickly; and it will largely depend on the nature of these microbes whether or not the rest of the body will be in danger. If, on the other hand, the physico-chemical properties with which all living tissue is endowed and which constitute its natural means of defense, are sufficient to hold the invaders in check or to overcome them, restitution will take place; to be precise, some of the affected cells will succumb, but the surrounding cells form an impassable barrier against further progress of the infection. Thus does recovery from pneumonia, from typhoid, in fact, from any infectious disease take place.

What we physicians accomplish in our treatment of disease consists largely in aiding the diseased cells to rid themselves of their enemies, in removing unnecessary obstacles and handicaps, in preventing breakdowns in other parts of the complicated and delicate machinery of the organism—in one word, in *stimulating* the nat-

ural defensive apparatus of the body. From time immemorial we have tried to do all this, more or less unconsciously, by means of drugs and other medicines. I say "unconsciously," because this aspect of medicinal treatment as a support of the weakening body cells is only of very modern origin.

More recently, however, the idea of stimulation has found a more deliberate expression in the growing employment of certain physico-chemical forms of treatment such as heliotherapy, hydrotherapy, and electrotherapy. Surely, the encapsulation of tuberculous foci in the lungs as the result of sunlight and air, the limitation of an abscess under moist compresses, the absorption of an exudate in an inflamed joint by means of diathermy can only be interpreted as examples of successful stimulation of affected body cells.

Of vastly greater stimulating effect than any of the procedures just mentioned, is the protein therapy. And further, this protein stimulation is not only more intensive but also more *extensive* and affects the *entire* body. From very recent researches it seems fairly probable that this "omnicellular" effect is transmitted by way of the sympathetic nervous system. However, while the stimulating impetus is carried throughout the organism, the response to stimulation is not the same in all parts of the body. Healthy cells are least, diseased or weakened cells are most stimulated. This behavior is by no means paradoxical because we have learned from the physiologists that abnormal cells as long as they are not damaged beyond repair, react to any form of stimulation much more promptly than do normal cells.

To those cells, then, which are engaged in warfare against bacteria, the new and powerful stimulation of a protein injection does what the whip does to the tired horse—it causes a last, determined effort.

EFFECT OF PROTEIN INJECTIONS ON THE BODY CELLS

This final effort is represented by several important biological phenomena: The nucleus which was near dissolution, regains shape and size; the protoplasm recovers its phagocytic quality which was about exhausted; the intracellular and inter-cellular metabolism is increased, with the acceleration of the chemical reactions within the cells, antibodies and ferments are poured out which weaken or neutralize the bacterial toxins; and, finally, there is a greater permeability of the vessel walls whereby inflammatory exudates are more readily absorbed. The whole process has aptly been described as "plasma activation."

All this we know from histological and bio-chemical studies, but there are also outward and visible proofs of plasma activation.

The first effect of the protein injection manifests itself, within a few hours, in the form of the so-called general reaction. There is usually a chill followed by a rise in temperature which may reach as high as 105° F. In some cases there may be only drowsiness, increased perspiration, or slight nausea. After intravenous injections the general reaction is always more intense than after either intramuscular or subcutaneous injections. The fever subsides in from 12 to 24 hours

and gives way to a feeling of intensified well being which is noticed by the patients in practically every instance and grows even more pronounced during the course of treatment. Appetite and sleep improve, and the depression of general malaise disappears. The rise in temperature is regularly accompanied by an increase of leucocytes; 20,000 to 25,000 are by no means exceptional figures, at least after the first one or two injections. This hyperleucocytosis fades away within two or three days, to reappear, in milder forms, after each subsequent injection.

In addition to this obvious response of the whole organism, there is also a "focal" reaction at the site of the inflammation. In superficial infections we plainly see a transitory increase in swelling and redness, and by analogy we may assume that also foci hidden in the depth of the body become more swollen and reddened. This explains why in some cases of pyosalpinx, for instance, the first few injections are followed by increased, but transient tenderness—not at the site of the injection, but within the pelvic or abdominal cavity. On the whole, however, the "focal" reaction is insignificant, and both focal and general reactions, as a rule, diminish in intensity as the infection loses its hold.

Of course, plasma can only be activated if there is still a modicum of regenerative power left in the affected tissues. The duration of the infection, therefore, will have a bearing on the influence of protein stimulation; and practical experience has, in fact, demonstrated that favorable results are more likely to occur, the earlier in the course of the disease protein injections are administered.

MILK INJECTIONS

The number of proteins which have been used for clinical and experimental purposes, is quite large. In actual practice only a few substances need be considered; of these milk has become most popular since 1916 when Robert Schmidt, of Prague, introduced it into medicine. He preferred it to other proteins because, as he said, it was available even in the remotest village and its producer, the organism of the cow, seemed to him as reliable as any pharmaceutical laboratory.

We have followed the original procedure of Schmidt for more than three years, and only recently modified it according to the suggestion of Graves, of Roanoke.

The technique is now, as follows: Ordinary household milk is rendered fat-free by centrifugation and boiled in test tubes in a water bath for 10 minutes in such a manner that the test tubes do not touch the bottom of the vessel. By first sterilizing the centrifuge tubes and test tubes the probability of imperfect sterilization of the milk is averted. The milk is then drawn through a long needle into a syringe both of which, of course, must be sterile. If the services of a laboratory are available, the fat-free milk may be rendered sterile by pasteurization for one hour at 80° C. on six successive days. Or else, pharmaceutical milk preparations which are marketed in sterile ampoules and under various trade names (aolan, etc.) may be used.

The milk is injected into the upper portions of the buttocks under the usual antiseptic precautions. *Local irritation denotes insufficient disinfection of the skin.* If the injection is made slowly and through a long, thin and sharp needle, it is painless or practically so. Absorption is speedy and we have never observed an abscess in the thousands of injections we have made.

The initial dose is 5cc., the standard dose 10 cc. which is reached with the second or third injection and then maintained throughout the course of treatment. In very feeble patients, the first dose may be as low as 3 cc. and is increased only cautiously.

The interval between injections is from 3 to 5 days, in indolent patients occasionally only 2 days. We are guided herein largely by the clinical aspect of the case and the leucocyte count. When the latter has receded sufficiently from its peak, new stimulation is in order. To prevent misunderstanding, the *first* injection is given no matter how high the original count was.

The "general" reaction sets in about six hours after injection. It used to be rather stormy in many instances, but since the employment of fat-free milk it has greatly abated, and chills and elevations of temperature are, as a rule, but slight, though hardly ever totally absent. In the course of treatment, the general reaction becomes progressively less pronounced and requires very careful clinical observation to be detected. Anaphylactic shock need not be feared. Only three cases of this kind have been reported in the literature of the world. It is possible that in these cases the fluid was injected unintentionally into a vein; and it is good practice to make sure that the needle has not punctured a vessel by first drawing up the piston.

"Focal" reactions have been very infrequent in my experience. When present, they disappear after the next few injections.

The treatment requires no hospitalization unless the condition of the patient demands it. In mild cases the injections are given at the office or in the clinic, but the patient is warned to expect a chill and to keep to her bed if necessary.

It may not be amiss to state here, that other tried measures of general or local cell stimulation are not discarded, and that very often the best results are achieved by a combination of these with protein therapy.

MILK INJECTIONS IN GYNECOLOGY

Of the various infectious diseases of the female genitals, gonorrhea, or to be more exact, gonorrhea of the tubes, is the one which responds most readily to protein injections. This is all the more gratifying because the treatment of ascending gonorrhea, on the whole, is very unsatisfactory. That in very exceptional cases, prolonged rest in bed combined with conservative antiphlogistic measures may bring about a cure, cannot well be doubted; but how infinitesimal this chance is, may be inferred from the immense number of operations which are performed daily or pyosalpinx or its sequellae. Surgical treatment, again, offers relief only under certain conditions. I cannot discuss the entire evolution of surgery in gonorrhea of the ap-

pendages, because that would lead me too far afield. But this much must be said here that the removal of one or even both tubes has not solved the problem, and that only the complete extirpation of both uterus and adnexa, in the vast majority of cases, cures the patient. Unfortunately, this radical procedure unsexes her at the same time, and as most of these patients are young girls or women, the prices they have to pay for relief, seems staggeringly high.

It was, therefore, a source of greatest satisfaction to me when, by personal observation, I found the claims of foreign writers confirmed, that ascending gonorrhea is often amenable to protein therapy. The usual sequence of events in such cases is almost from the start, a decided *subjective* improvement which, after two or three injections, results in complete surcease of pain. The occasional occurrence of a focal reaction with an initial increase of tenderness has already been mentioned. *Objective* improvement is hardly ever delayed until after the fourth injection. Except in cases of very long standing, tubal tumors diminish in size and often disappear completely. Exudates, even those of great dimensions, may vanish without a trace, though in some cases insignificant thickenings may remain. The earlier in the course of the disease the treatment is begun, the more rapid and complete success is likely to be. At times even tumors of long standing respond with surprising rapidity. I have seen stone-hard exudates which cemented the entire pelvis and obliterated all landmarks, melt away after half a dozen injections so that the thickened, but now indolent tubes could be mapped out. In one instance, the tubes which originally had the size of cucumbers, were found soft and patulous on laparotomy two months after treatment. This, to be sure, may happen after the ordinary treatment, but certainly not as quickly nor as often as after protein therapy; for I know of another case of the same kind in the practice of a friend of mine. Combination with the older and tested means of treatment such as rest, heat externally and internally, glycerine tampons, etc., will serve to hasten results.

I wish I could submit statistics as to the frequency of cure; but after the first 30 cases separate records were no longer kept. By that time I had satisfied myself that tubal gonorrhea could actually be cured with milk injections, and since then *all* patients with tubal involvement were subjected to this treatment. If not relieved, these women could still be operated upon; but it may be stated that in the hospitals under my control, operations for pyosalpinx have become as infrequent as they used to be numerous in former years. Instead, such patients are now injected in the clinic, and they are usually lost sight of, when they feel relieved and able to work again. This instability of clinical patients makes accurate statistics so impractical. It may be that some such patients drift into other hands and undergo operation later. In private patients, however, supervision is, as a rule, easier and more complete, and for these I can vouch for definite cure in a number of cases. Or, if there was no complete disappearance of the tubal tumors, there was at least a condition which, as far as well-being and ability

to work was concerned, amounted to a cure. In one case there was, after six months, a return of tubal swelling and exudate which again yielded to milk injection, and since this patient has been protected from reinfection by her widowhood, the cure has now lasted for several years.

I am very far from claiming that every patient with ascending gonorrhea can be cured, for I myself have observed a number of refractory cases, but I feel very strongly that protein therapy should be tried in every instance, as it, in no wise, compromises later operation.

Gonorrheal Bartholinitis is, likewise, favorably influenced by milk injections. In several cases of this sort the swelling of the gland which had not yet assumed extensive proportions, subsided promptly after two or three injections. In one instance, the inflammation recurred in pregnancy but could be kept in bounds by injecting small quantities around the periphery of the swelling. On the other hand, I have under my care at this moment a young woman with subacute gonorrhea and an abundance of typical gonococci in both the urethral and cervical discharges, in whom milk injections could not forestall the appearance of a large Bartholinian abscess which required incision and drainage.

Such failures merely indicate to my mind the limitations of the new treatment, a fact which should curb an injudicial over-enthusiasm. Even at this early stage of our knowledge it has become apparent, that not all parts of the genital tract are equally benefited by protein therapy. The ovaries, for instance, seem to be entirely unresponsive. Bladder and uterine body respond more readily, while the infection in Skene's ducts and the glands of the cervix, as a rule, remains uninfluenced. Only in two cases of frank gonorrhea have I seen the infection of the cervix clear up completely after milk injections alone; in all other cases, additional local treatment was needed.

Of other, non-gonorrheal affections, genital and peritoneal tuberculosis is claimed by continental writers to yield to protein therapy. I have no personal experience on the subject and would attempt milk injections only after I had made sure that the lungs were clear lest the treatment would cause quiescent foci in that locality to flare up.

In one case of large pyometra following radium treatment for inoperable cancer of the cervix, and in another of lochiometra after cesarean section with excessive fever, I have seen results from milk injections so prompt and convincing that coincidence might well be excluded.

I have observed the complete disappearance of two large pelvic abscesses after five and eight milk injections, respectively. One case resulted from an attempted abortion with slippery elm tents; the other occurred after perforation during curettage. In both instances, there was hyperpyrexia and hyperleucocytosis, severe peritoneal reaction, and a fluctuating tumor which extended almost to the umbilicus above and bulged deeply into the posterior fornix below. I refrained, in these two cases, from the logical treatment, namely, incision and drainage, merely to test the then new

method of protein therapy, and I was immensely gratified by the signal success achieved. Of course, this does not mean that the surgical emptying of an abscess is now obsolete.

As a general proposition, however, it may be stated that in all gynecological diseases of bacterial origin a trial with milk injections might well precede any surgical treatment. Even if no cure results, there can be no harm from it; on the contrary, the general condition of the patient is bound to be benefited.

MILK INJECTIONS IN OBSTETRICS

This applies, with equal force, to the use of protein therapy in the realm of obstetrics. Is it necessary to point out how peculiarly helpless we are in the treatment of the various forms of puerperal infections? There we have no reliable specific therapy at our disposal, and our only hope lies in the natural power of resistance of the organism, in the ability of the infected cells to defend themselves. How often this natural resistance fails is expressed in the thousands of women who die every year from childbed fever; how often it is insufficient, becomes manifest in the vastly greater number of women whose life-long ills were caused by a puerperal infection. It is not to be expected that this mortality and morbidity can ever be wiped out by any remedial agent, but it may be hoped that their percentage can be reduced if by proper cell stimulation at the right time, the weakened organism receives support which may help to turn the tide of battle. The logical conclusion, therefore, is to begin the protein therapy as early as possible and, if feasible, to commence injections in any and every puerpera as soon as fever occurs. It is needless to say that many a feverish patient might be treated unnecessarily for we know very well that a rise of temperature often occurs without tangible cause and subsides spontaneously after a short while. The new blood sedimentation test, may, perhaps, forewarn us in time, but on the whole we are unable to foretell future developments in a case of fever after childbirth; and so long as this uncertainty exists, a little extra caution is surely not out of place and far from being meddlesome. Several writers have even gone so far as to inject proteins prophylactically in all cases where a febrile puerperium might be expected from the nature of the confinement. Personally, I have every reason to value the effect of milk injections in all puerperal infections, mild or severe; and an occasional disappointment has not been able to shake my conviction. One only needs steer a middle course between the two extremes of boundless enthusiasm and skeptical nihilism to realize that complete exhaustion of the infected organism prevents response to any stimulation, and that dead or dying cells are incapable of any restitution.

Neither should one restrict the treatment of puerperal infection necessarily to this one new form of plasma activation, but other means of stimulation such as sunlight, fresh air, alcohol, strengthening food, etc., should also be employed.

Of other febrile complications in the puerperium, I have seen very prompt relief by milk injections in sev-

eral cases of pyelitis. In three cases of mammary abscess milk injections were made after incision and drainage, and I had the distinct impression that the extensive cavities cleared and filled up much more quickly than usual.

CONTRAINDICATIONS

No remedy and no treatment is applicable in every patient. Protein therapy is strictly contraindicated in cardiac decompensation, diabetes, and alcoholism, perhaps also in pregnancy though sufficient evidence is not yet available. In quiescent pulmonary tuberculosis I would hesitate to use protein injections lest the pathologic process be made to flare up. Petersen, of Chicago, whose name cannot be omitted in any discussion on protein therapy, enjoins great caution where there is a history of hypersensitiveness on the part of the patient (serum sickness, asthma, urticaria, angioneurotic edema) or of epilepsy or other grave nervous instability. Most important, however, are the state of the disease and the condition of the patient. It cannot be said too often that in an advanced stage of an infection protein stimulation is unable to revive hopelessly damaged cells, and that, if applied in an utterly exhausted patient, it may even hasten the end.

Lack of personal experience prevents me from expressing an opinion on proteins other than milk, but various writers have reported encouraging results with whole blood, different kinds of sera and vaccines, casein, etc.

OUTLOOK

The foregoing remarks have barely been more than a preliminary report. There is work for all of us to do in developing the latent possibilities of this new mode of attack on disease. Milk has seemed highly satisfactory; but there is no gainsaying that another protein substance might not be better in this or that type of infection. Nor is it at all unlikely that one substance might be found to be more efficacious in the beginning of the treatment and another later on. The dosage is still rather arbitrary and influenced by that curious subservience to the magic of numbers (5 cc., 10 c.c.) to which we habitually pay so much attention; a greater refinement in determining the dose might well be expected in the future. Mistakes in the proper selection of cases for protein therapy will undoubtedly grow less frequent with increasing experience. One will be careful not to subject any and every case to this treatment, merely because little harm can come from it; and even more important, one will be cautious not to bring discredit upon a valuable procedure by resorting to it in terminal stages of a severe infection or in patients who already are past the chance of recovery.

The conquest of disease by plasma activation opens up a veritable new land that we may explore with the optimism of hope and enthusiasm. Failures there are and will always be; but have failures ever deterred a true explorer?

SUMMARY

1. Nonspecific therapy of inflammatory diseases consists of the subcutaneous, intravenous or intramuscular

injection of protein substances which are in no wise related to the causative bacteria.

2. Protein substances, thus introduced "parenterally," have the faculty of activating the protoplasm of all cells in the body and, particularly, of those cells which are engaged in warfare against the invading microbes.

3. This plasma activation serves to mobilize the natural defensive powers of the organism and to overcome the infection.

4. Of the various protein substances recommended, milk is most easily available and at the same time highly efficacious.

5. The method of sterilization, the mode of administration, and the proper dosage are described in detail in the foregoing.

6. In the field of gynecology, gonorrheal infection of the tubes and Bartholin's glands is most often amenable to protein therapy; in other locations of the infection the therapeutic result is less conspicuous.

7. Non-gonorrheal inflammations of the genital tract are also often cured by this treatment.

8. In the realm of obstetrics, puerperal infections, even of severe degree, frequently yield to non-specific therapy with surprising rapidity.

9. In spite of its wide applicability there are definite contraindications to protein therapy.

10. The new method is still in its earlier stages and capable of further development.

DISCUSSION

DR. H. W. KOSTMAYER (New Orleans): I listened with a great deal of interest to Dr. Gellhorn's paper which, he says, opens up a small field of study—but it strikes me he has opened up quite a large and interesting field of thought, and I shall endeavor to try and work out this method in the future.

Gonorrhea of the female tubes has always struck me as a particularly hopeless situation. In fact, I can recall so few instances in my experience where gonorrhea of the female tract has resulted in anything but loss of tubes, at least, that it pleases me beyond expression to know that there is something that we can hope to have relieve this situation. The loss of the tubes themselves is bad enough but it frequently follows that not only the tubes are sacrificed but complete unsexing of the individual is necessary.

And so, as I have stated, I am going into this method with a great deal of enthusiasm. The results as reported by Dr. Gellhorn are striking—so striking with a new method that in time we can expect great improvement in our technique, as well as in results.

DR. W. A. REED (New Orleans): I have been using milk for about two years in the treatment of gonorrhea, not only in the female, but in the male. The preparations I have used have been of the proprietary preparations put on the market under the names of "Lactigen," "Aolan," etc., and I believe I am correct in stating that my results seem to have been good, and maybe better, than with the use of vaccines.

One thing which I have found in the use of milk has been the frequent immediate relief from pain in

cases of epididymitis especially in cases one sees in the office, and suffering intensely. Almost immediate relief frequently results if given intradermally. The dose is small, 2 c. c. being the average dose given intradermally, in two or three weeks. I have seen patients come into the office in excruciating pain and hardly able to walk, and after this treatment able to walk out comfortably. The relief is sometimes permanent, and at other times they are relieved for 8 or 10 hours, after which they receive another injection of milk.

The intra-muscular use of it: I have not had enough cases to say whether better results are effected than from vaccines. The milk injections intradermally have given good results and I shall continue to use it as long as it is effective.

DR. C. JEFF MILLER (New Orleans): I should like to ask Dr. Gellhorn whether he has found the milk injections of more value in the acute or the chronic cases. Also in cases which were subsequently operated upon, was the pelvic pathology found different in any way from cases which had not been treated by this measure?

I should also like to know what ingredient of the milk he considers causes the reaction and the favorable changes in the patient's condition. There has been considerable discussion on this point, because milk is such a complex solution that no conclusion has been reached as to what really is the potent agent. Does the casein cause the favorable result, or is it the dead bacteria?

DR. A. MATTES (New Orleans): I can reinforce the statement made by Dr. Reed relative to the value of milk injection in gonorrhea in the male. I have found this treatment effective in fulminating acute infections of the prostate and in polyarthritis, and gonorrheal rheumatism, as well as epididymitis. It has proven of value, in addition to the use of other measures commonly employed.

DR. E. L. KING (New Orleans): I would like to ask Dr. Gellhorn about the use of milk injection in the care of blood stream infections in puerperal cases, e. g., streptococcal infection with no local lesions.

DR. LUDO VON MEYSENBURG (New Orleans): I would like to ask Dr. Gellhorn if he has noted whether or not these patients were sensitized to milk, so that they could not drink it later on?

DR. GEORGE GELLHORN (St. Louis), closing: Dr. Reed has used milk and vaccines in male and female gonorrhea with about equal success. I have no personal experience with men, but I have found, together with practically all gynecological authors, that the results of vaccines in gonorrhea of women and children are disappointing.

Dr. Jeff Miller wanted to know if acute or chronic infections are best influenced by milk. Theoretically, one should wait for the probable outcome of the fight between the cells and the microbes. Perhaps, there might be no need for help. But in gonorrhea the outcome is all too certain: the gonococci will win out in every case. There is, therefore, no reason to wait until the acute stage has passed. In fact, I believe this to be the best course in all severe infections, all

theory to the contrary notwithstanding. The clinical observation can not be argued away that, the earlier treatment is begun, the better are the results.

I do not know which particular constituent of milk is the decisive, stimulating factor. It has been claimed that casein performs this particular service. The great disadvantage of casein, to my mind, is that it has to be injected intravenously, that reactions after each injection are very severe, and that instances of serious anaphylactic shock have been observed. Whole milk, on the other hand, may be somewhat of a shot-gun mixture, containing, as it does, a number of substances, but it seems to work well and apparently even better than some of the pharmaceutical products. I have never believed that the intensity of the general reaction had any relation to the final result, and, in fact, since we have been using fat-free milk, we have gotten away from high temperatures and severe chills and, yet, our results are as good as before.

Dr. Hilliard Miller mentioned adhesions. These are not influenced by protein therapy. You may be able to prevent them by instituting treatment at any early stage but after they are once formed, milk injections, I think, will not remedy them. This is the reason why I had to operate on the two cases which I mentioned in my paper. In one of these cases, the entire pelvis was "cemented" by a massive exudate within which no landmarks and no organs could be outlined. Of course, such an exudate can only be the sequel of diseased tubes. After two months of protein and absorbent treatment, the pelvis was entirely clean but the uterus was still in fixed retroflexion, and operation proved the softness and patency of the tubes.

Let me, however, emphasize again the fact that there are also failures, and stress the point that protein therapy is not a panacea.

Dr. King mentioned blood stream infection. Some twenty years ago it was suggested to inject weak formalin solutions intravenously, and more recently mercurochrome and other antiseptic substances have been recommended. I believe that the conception of thus killing bacteria in the circulating blood, is fundamentally wrong. If the antiseptic used is strong enough to kill the bacteria, it will also kill the patient. To my mind, the success of mercurochrome, in its last analysis, is nothing but cell stimulation, and you should be able to accomplish the same result with milk injections or blood transfusions, or some other protein substance which is less poisonous than any antiseptic solution.

I have not yet observed conception following milk injections for pelvic infections, but I believe that a few cases have been reported in Germany.

Dr. von Meysenbug brought up the interesting question of possible aversion to milk by mouth after par-enteral milk injections. The thought was new to me and I do not think that I have seen it mentioned anywhere; but I shall certainly pay attention to this point.

In closing, let me say how much I have enjoyed the privilege of being with you, and how much I appreciate the kind words of your President, the generous discussion, and your hospitable reception.

Correspondence

ROCK ISLAND COUNTY MEDICAL SOCIETY STANDS BY ITS GUNS

The following correspondence is quite illuminating. It demonstrates very clearly how some of our enthusiastic birth control fadists distort statements:

Silvis, Ill., December 29, 1925.

Harry Lewis, M. D., Editor,
American Medicine,

18 East Forty-first St., New York, N. Y.

My Dear Doctor Lewis: Dr. Charles J. Whalen, editor of *ILLINOIS MEDICAL JOURNAL*, was so good as to say that I might use his name in introducing myself to you. It was he who first called to my attention the article by Dr. S. A. Knopf, which appeared in your November issue.

This article is so evidently based upon a misapprehension that I have felt that it would be wrong to allow it to go unchallenged. In the letter which accompanies this and for which publicity is asked, I have limited myself strictly to interpretation; that being the thing to which the Rock Island County Medical Society is entitled.

Any question of whether Dr. Knopf made a willful misinterpretation for the purpose of "putting over" a propaganda article with your publication, is outside my province. Such a matter would rest between yourself and Dr. Knopf. I have no objection in the world to people arguing for and against birth control, although I have not yet felt competent to argue upon either side, myself.

The enclosed rejoinder is offered entirely as a matter of fairness to the Rock Island County Society, and to the gentlemen whose names Dr. Knopf chose to drag in, and to *American Medicine*, which seems to have been imposed upon by the essayist.

With good wishes I am, Sincerely yours,
W. D. Chapman, M. D.

THE FOLLOWING IS THE REJOINDER:

December 29, 1925.

To the Editor, American Medicine,
18 East Forty-first St., New York, N. Y.

Dear Sir: Please be referred to page 655 of the November issue of *American Medicine*: article by Dr. S. Adolphus Knopf.

Having been present at the meeting of the

Rock Island County (Illinois) Medical Society which discussed and passed the resolutions to which Dr. Knopf takes exception, and feeling that I bear a share of responsibility for the passage, I address you briefly.

The discussion before the Rock Island County Society brought to the front these points which Dr. Knopf has chosen to ignore or has been unable to appreciate:

1st—No exception is taken to the existence of the American Birth Control League.

2nd—No exception is taken to the personal membership of any ethical physician or of any other person in that League.

3rd—No argument is undertaken as to the merits or demerits of any attempt at population-control.

In view of which the article which Dr. Knopf states is his "defense" seems to be gratuitous and beside the point.

The thing which is condemned in those resolutions is not a new thing. It has been the past custom among ethical physicians to frown upon agreements whereby any practitioner solicited patients through the medium of a lay agent. The American Birth Control League is a lay organization. At an earlier meeting of the Rock Island County Society, Dr. James F. Cooper, for the Birth Control League, had solicited volunteer practitioners in Rock Island County, to whom the League might refer its "patients" for the advice and treatment which (to the lay-league) seemed indicated.

The resolution in question "declines to sanction" this particular "establishment of local agencies" of lay "sociologic practice," just as the society has always declined to sanction the lay practice of medicine. The resolution further declares that "affiliation in practice" shall be an "unethical association": a corollary to the proposition. Affiliation in practice with a layman or with a lay organization, always has been considered an unethical association. Its re-statement to cover a new phase provides no reasonable ground, whatever, for the listing by Dr. Knopf of a dozen or more eminent and respected names of men who are in no way affected.

Only two interpretations of Dr. Knopf's "defense" seem possible: the more charitable, and it seems the more likely, is that he wrote his

"defense" before reading the resolutions in any other than the most cursory fashion.

I ask publication of this letter.

Yours very truly,

W. D. Chapman, M. D.

A SECTION OF RADIOLOGY FOR THE ILLINOIS STATE MEDICAL SOCIETY

March 17, 1926.

To the Editor: For a number of years Radiologists have insisted that the practice of Radiology was just as much a specialty and required as much training, etc., as the practice of any of the specialties in clinical medicine. This plea finally culminated in the establishment of a permanent Section on Radiology in the American Medical Association at the 1925 meeting of that body. No greater compliment could be paid to Radiology than this official act of our great, parent, National Organization. It places Radiology in a position where it deservingly belongs. The following is quoted from the Report of the Council on Scientific Assembly of the American Medical Association to the House of Delegates in regard to full recognition of Radiology:

For several years, through communications addressed to the Council and through resolutions submitted to the House of Delegates; there has been expressed an insistent demand for the establishment of a Section on Radiology. This demand has been voiced most largely by representative physicians devoting themselves to this special field of work. It is believed by many that the establishment of a section on Radiology in the Scientific Assembly of the American Medical Association, will go far toward keeping the practice of this specialty in the hands of qualified physicians and will discourage the tendency, which has become marked in some quarters, to have its practice dominated by those who are less well qualified. Last year, two sessions in the Section on Miscellaneous Topics were devoted entirely to Radiology. These were splendidly attended, and the program presented was highly commended. At this annual session, three periods in the Section on Miscellaneous Topics will be given over to this subject.

The Council has frequently expressed itself as believing that no greater number of sections should be established than now exist, and has encouraged as far as possible the reading of papers on radiologic subjects before the regularly established sections of the Scientific Assembly. But because of the success that attended the session held in Radiology in the Section on Miscellaneous Topics last year, and because of the enthusiasm and interest of the officers appointed for the sessions to be held this year, as well as because of the importance of the whole field of Radiology, the Council on Scientific Assembly recommends to the

House of Delegates the establishment of a separate section to be known as the Section on Radiology, and the changing of the By-Laws accordingly.

The J. A. M. A., in an editorial on the success of the 1925 meeting had the following to state concerning the Radiological Section:

"The new Section on Radiology was attended by numbers which crowded the capacity of its hall and left no doubt as to the importance of this specialty in the science of medicine."

At the coming Champaign meeting the proposition of establishing a Section on Radiology in the Illinois State Medical Society will come before the House of Delegates. The proposition has already been endorsed by the Chicago Roentgen Society, and the Central Illinois Radiological Society—the only two Illinois Radiological Societies.

The establishment of a Section of Radiology in this state will do much to elevate the Radiological profession in Illinois. The radiologist is just as much a specialist as is the eye, ear, nose and throat consultant; and, is therefore, just as deserving of a special section in his State Society.

Wisconsin and Texas have already established Sections on Radiology in their State Society. The Radiologists of this State want Illinois to be among the leaders in this progressive movement. Let us be NEXT!

HAROLD SWANBERG, M. D.,

Quincy, Ill.

President, Central Illinois Radiological Society.

RADIOLOGICAL MEETING AT CHAMPAIGN

To the Editor: There will be a joint meeting of the Chicago Roentgen Society and the Central Illinois Radiological Society at Champaign on the afternoon of Tuesday, May 18, at the time of the Illinois State Medical Society Convention. A very high grade program is being arranged and every Illinois Radiologist is urged to attend this meeting. The program will be of the same high caliber that is usually found at the National Meetings, and will be well worth the time to make the trip to attend the meeting.

Further details of the meeting, etc., can be secured from the undersigned.

HAROLD SWANBERG, M. D.,

Quincy, Ill.

President, Central Illinois Radiological Society.

IS IT ETHICAL FOR ONE SURGEON TO TAKE FROM ANOTHER CARRIED AS AN INSURED SUBJECT BY AN INSURANCE COMPANY?

UNDER THE PRESENT LAW AN EMPLOYEE BE-
COMES A PART OF THE INSURANCE
COMPANY MONOPOLY

To the Editor: Chicago, March 27, 1926.

Enclosed find copy of a letter I sent to Dr. F. R. Morton, secretary of the Chicago Medical Society. I especially wish to call your attention to paragraphs two and three.

I believe that under the present law every employee virtually becomes a part of a monopoly for the insurance company to the exclusion of those physicians not employed by the insurance company. I also enclose Dr. Morton's letter in answer to mine.

How does the Illinois Federation stand on this problem to have all their insured employees "members of said organization" become the property of the insurance company? How about the physicians in a similar position as myself not employed by the insurance company and not looking for that kind of employment?

JOHN KERCHER, M. D.

6859 Dorchester Avenue.

LETTER TO DR. MORTON

Dr. F. R. Morton,
Secretary Chicago Medical Society,
Member of Committee, Study of Industrial Act.
Dear Doctor:

Now that the difficulty I had in reference to my bill of the New York Fidelity & Casualty Company has been adjusted, the bill paid in full and apologies received from said company, I wish to extend to you my "thank you" for your help and advice in said matter.

Now I wish to call your attention to the other matter I referred to—namely, my having charge of a patient for the Carpenter Coal Company—man with fractured spine and complete paralysis from waist down and where I received orders from Dr. Cubbins that he would take charge of the case as ordered by above insurance company. I voluntarily relinquished the patient, although I felt and still feel that I did not have to do so. As you are a member of the Committee for the Study of the Industrial Act, I would like to have you present the following question:

Is it ethical or legally proper for a chief sur-

geon or medical man to take charge of a patient simply because the patient happened to be carried as an insured subject by the insurance company? Does the patient become the property of an insurance company by the Employers Liability Act? Why should any physician obey the commands of any other physician simply through authority that the other physician happens to be on the pay roll of the insurance company. You will please note that I am not carrying any grudge against Dr. Cubbins, but he and all other physicians and surgeons holding similar positions should be notified that I am not going to take any orders hereafter. I would also suggest that this matter be called to the attention of the Chicago Federation of Labor and through them to the Illinois Federation of Labor.

JOHN KERCHER, M. D.

DR. MORTON'S REPLY

Dr. John Kercher,
Chicago, Illinois.

Dear Doctor Kercher:

I beg to acknowledge receipt of your letter of March 11.

Under the law, that is, the Illinois State Compensation Act, the employer is entitled to furnish his own doctor, because he must pay the bill. The insurance company who insures the employer can furnish their own doctor because they must pay the bill.

If the injured man wants his own doctor he can do so, but then he must pay the bill himself. There is no law that will change this at the present time. A committee of the Illinois State Medical Society have been trying to change this law for some years, but so far they have been unsuccessful. I am, Very truly yours,

FRANK R. MORTON,

Secretary Chicago Medical Society.

"HE IS NOT A PREACHER, HE IS AN OSTEOPATH"—KIWANIS CLUB NEEDS TO BE ENLIGHTENED

Chicago, Ill., March 6, 1926.

To the Editor: I spoke yesterday before the Kiwanis Club of Austin, at the Austin Masonic Temple, upon the subject "The Doctor—Business Manager of Health." I had an attendance of between thirty-five and forty men.

Before we sat down to lunch, I was introduced to an elderly gentleman of a rather devout manner whom they greeted as Doctor. I

do not recall his name. Before they ate, this gentleman was called upon to ask the blessing, which he did in a manner that led me to believe that his was the calling of a minister.

The lunch concluded, the president presented several matters of business and then he announced that he would turn the meeting over to Doctor ———, the gentleman who had said "Grace." While the appointed toastmaster was calling upon several members for short remarks, I asked the president what church he served. He answered, "He is not a preacher, he is an osteopath."

Now it seems to me that that particular Kiwanis Club needs to be enlightened upon the subject of who are safe advisers in matters of health. I can readily understand that the two physicians who belong to this club are placed in an embarrassing position and would take the liberty of suggesting that the Lay Education Committee confer with them and see if something can be done to correct this state of affairs.

Another thing that I noticed was the impression that many of the men had that I was a paid speaker. I think the Lay Education Committee should make it clear to every organization asking for a speaker that the one who appears before them is doing so at a sacrifice of time and without expectation of reward.

EMMET KEATING, M. D.

UNRELIABLE MEDICAL COLLECTING AGENCIES

Effingham, Illinois,

To The Editor: March 18, 1926.

I want to call your attention to the problem of medical collecting agencies. I believe that you, as editor, might render a wonderful service to the doctors of the state by taking up this matter in a business way and bringing it before the whole profession, learning of the various experiences as reported by doctors over the state and I think it will be found that the large majority of these agencies are conducting nothing but a straight-out skin-game. I think they are stealing largely from the doctors all over the state and I believe it is time that the whole proposition has an airing and if there is an agency that is doing a straightforward business, it should be known. I believe this is a business matter to which the doctors over the state would respond readily.

If you do not wish to take this up, then I would be glad to prepare a letter to the doctors of the state to be published in the ILLINOIS MEDICAL JOURNAL intended to bring out the same information, in the hope that it might be of some use in dealing with this class of concerns. I know that doctors all over the state are continuously turning in accounts.

F. BUCKMASTER, M. D.

Comment by Dr. Camp:

In regard to Dr. Buckmaster's collection agency proposition. I doubt myself if there is a real honest concern doing this work. The county society "Black List" is worth something, if conducted properly. Listing the deadbeats helps in a lot of ways and christianizes some of them who really could pay if they had to. Along that line I think we ought to have a committee in the society under a man like Tom Foley to protect our members against shyster industrial insurance companies. I have suggested it several times. There are as many collection schemes as there are physicians in the state, and to enumerate them in the JOURNAL and listen to every member's story would fill it each month.

H. M. CAMP, M. D.

FORWARD EXPERIENCES WITH COLLECTING AGENCIES TO DR. BUCKMASTER

Effingham, Illinois, March 29, 1926.

To The Editor:

In answer to your two letters of March 21 and 27, will say that I believe the various adjusting associations or collecting agencies are taking great advantage of the doctors and hospitals over the state. If there is an honest and efficient collecting organization, the doctors ought to know about it and so should they know of the dishonest ones.

I would be glad to have the physicians of the state give me their experiences, good or bad, with the various collecting agencies, giving the correct names of the agencies so one can get at the thing properly. It may be that in that way one will be able to get some idea as to what the extent of damage through dishonesty on the part of these agencies amounts to.

The worst one we have had experience with is the National Adjusting Association of Chicago.

Very truly yours,

F. BUCKMASTER.

Original Articles

TEAMWORK FOR THE HEALTH OF THE PEOPLE*

WILLIAM D. HAGGARD, M.D.

President of the American Medical Association

NASHVILLE, TENN.

Those in the practice of medicine are very happy to realize that they are living in the golden age of medicine, for more has been accomplished in the last half century than in all the years gone by, with the net result that in the year 1924 the greatest realization of the hopes of the profession had been achieved. It was the healthiest year the world had ever known. The great desideratum of the medical profession is the prevention of disease. As a profession they would be very happy to lay down their knives and instruments and store their pills and capsules if they could by sane advice and immunization make the world the healthy place it should be. Much of this has been realized. Thanks to vaccination, smallpox is almost unheard of. Yellow fever, which once killed thousands of people in Philadelphia, and took 17,000 people in the beautiful Southland in one year, has been wiped out. Due to the splendid work of General Gorgas and his colleagues, yellow fever was shown to be caused by the bite of a certain mosquito, and it has been almost eradicated from the world. So with many other diseases—we no longer have the plague; tuberculosis has been so greatly decreased that the mortality rate has dropped off more than 50 per cent., the death rate cut in half. Typhoid fever, the worst of all infectious diseases, the dread thing that decimated armies, now, as the result of sanitation and the knowledge that the germ which causes that disease must come in through the mouth from a previously infected individual, can be prevented by the use of typhoid vaccine. Out of 4,000,000 men in the U. S. Army during the World War there were only 158 deaths from typhoid. Everyone should have a typhoid vaccination every three years as a safeguard. There were only 453 cases of typhoid fever in Chicago in 1925, but under the conditions of twenty years ago there would have been 60,000 cases. This, will give one some conception of what medicine is doing for the world. It is wonderful to do something for an

individual who realizes and appreciates it, but it is sublime to do something for those unknown to one and for generations yet unborn. In diphtheria, which was formerly so disastrous to the young, by the use of antitoxin the death rate has been cut down tremendously. With the simple Schick test every child can be tested and if found susceptible should have the antitoxin at once to prevent the possibility of diphtheria developing. Most school children now have this test and the infant mortality has been cut down one-fourth in the last six years by modern medicine.

We have added something like fifteen years to the span of life in the last two decades, so that now the average expectancy of life is fifty-five years. In the Middle Ages it was only twenty years. This has all been brought about by the wiping out of the scourges, and the medical profession should be very proud of its achievements, but still it is not enough. The increase in longevity has been attained in the younger years, in the better care of infants and young children, but not enough has been done for the middle aged man and woman. After forty-five they run more risk than before. They live too fast and do not heed the simple rules of health. The dental and the medical professions should teach people how to keep well and the educational films like the one that had just been shown do great work in this connection. The American Medical Association has for years taught the things that are now coming to pass. It is especially desirous that every man, woman and child in the United States have an annual, careful physical examination to find out the beginnings of disease and to throttle them in their incipency. One man in every seven who applies for life insurance is rejected because of heart disease, diabetes and other diseases which can be prevented and should be prevented.

The dental profession is now coming into its own. It was once said of the dentist that he lived a sort of "hand to mouth existence," but now they are the "Ritz Carltonites" of the profession. The dentist is not a mechanic, not a worker in the arts, not an exodontist or an orthodontist, but an oral surgeon and pathologist and must work hand in hand with his brother practitioner in medicine. They are in daily touch with the diseases which are propagated in the mouth. It has just been realized in the last few years

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what dental infection is, and the dentist can do more good in the prevention of disease than can his medical brother. If they can prevent the infections in the mouth from going through the system and affecting the heart, the joints and the kidneys, they will accomplish much. If a man has a lesion of the heart it is almost impossible for anyone to cure it. It has been shown that one can take a stone from the kidney and inoculate the material around that stone by boring a hole in the tooth of a dog and sealing it up, and within a short time have the dog develop a stone in the kidney. The dentists with the aid of the roentgen-ray can detect apical and other infection and remove it and prevent diseases of the great organs and remote tissues of the body.

The dentist can also be of more value in the early detection of the malignant diseases of the oral cavity than can his brother physician. Cancer of the lip kills 54 per cent unnecessarily. Every patient should go to his dentist every three months for a thorough examination, for he can see the beginning of cancer. I often feel like stopping a man on the street, in a strange town, and telling him to go to his dentist or his doctor because of evidences of malignancy that were apparent. Cancer of the lip is a very simple thing to excise in the beginning, under proper surgical technic, followed by radium, roentgenotherapy, or both, and it is curable. If a coal of fire pops out of the fireplace and falls on the hearth rug it can be put out immediately, but if one waits for it to get all over the house, nobody can put it out. Cancer never develops on normal structure. Cancer of the tongue is nearly always on the side where it impinges on a sharp tooth, which irritates it. The surgeon can take half the tongue out and the glands on that side of the neck and save his patient, but how much better to recognize the condition in the beginning, when it can perhaps be cured by radium alone. Cancer of the mouth rarely develops in the mucous membrane, which is not acid, a diseased mouth. Wherever there is an acid medium, cancer is prone to develop. A man never has cancer of the stomach except where the acid is most concentrated, but one out of every forty-five men after the age of 45 will have cancer of the stomach and die of it unless operated upon.

Surgeons can take out the diseased part of the stomach with 90 recoveries out of 100 and at

the end of 5 years have 25 per cent cures, but it is a Herculean task. Many people forget to chew properly. Gladstone chewed very slowly and on one occasion someone asked him how many times he chewed his food before he swallowed it. He replied, "The Lord gave me thirty-two teeth and I try to give every tooth a chance."

The small intestine is alkaline, the large intestine acid, and there are seventeen times as many cancers in the large as in the small intestine.

Much harm is being done in the ruthless extraction of teeth. To do the right thing at the right time is excellent, but to do the wrong thing at the wrong time is reprehensible. One cannot cure red hair or ingrowing toenails or disappointment in love by extracting the teeth, and the physician must not ask the dental surgeon to do too much. They must keep in mind the tonsils, the sinuses of the head, the gallbladder and other foci and not lose sight of the neurasthenic who is always a candidate for any operation whether he needs it or not.

With this knowledge, the American Medical Association wants the dentists to join in every possible way to induce individuals to have thorough health examinations on their birthdays. Some, perhaps, do not have as many birthdays as they used to, but this is not the only anniversary that may be celebrated. The wedding anniversary is all right, for now that the divorce coupon comes with each marriage certificate one can be examined more frequently. No one would ride in an elevator, on a train or a ship, or in an automobile that was not examined frequently. If we have the motor examined, why not the heart? If the radiator, why not the kidneys? If we can get this message over to the people we will accomplish much. There must be a drive of education throughout the country for these periodic health examinations. People must be taught to go to their physicians for such examinations and for advice as to the life they are trying to live. The medical profession is fine when it comes to pathology, but bad or not so good when it comes to the recognition and prevention of disease. Most of the scourges have been eradicated except pneumonia, and that will undoubtedly be done. It is the insidious, chronic, infections that make for the degenerative diseases of the heart, the lungs, the kidneys and the brain. Those are the things that

kill after forty-five, and those are the things that should be protected against by the annual physical examination. A careful record of one's physical condition should be made, which is much more important than a bank balance, and this should be checked up each year.

Everyone should disseminate this knowledge among their clientele, and have such examinations themselves. Every business concern takes stock once a year or, better, twice a year. If one gets financially bankrupt their friends can help them out, but if they get physically and mentally bankrupt nobody can help out except the medical man, and he must do this before disease occurs. Every doctor and dentist should have such an examination first, and should then ask their patients in an impersonal way if they have had one. If they have not, they should be urged to do so until every citizen in every town had been examined thoroughly. In that way wonderful work will be done. The way to make a healthy individual is to keep him in such fine fettle that disease will run off like water off a duck's back. These health examinations should be begun in the schools and should be continued through life. It is not in the interest of the medical profession, which has always been attempting to prevent disease, for by the prevention of disease it is curtailing its only source of income, but there is nothing more sublime than to rescue an individual from impending disaster. When a man first has a little albumin it is very easy to correct it, for the cause can be ascertained, but if one waits until Bright's disease, tuberculosis and heart disease develop, very little can be done. Every man will come sooner or later, but it should be sooner. He should not delay but should come at once so that the very incipency of the maladies of the flesh may be prevented. By so doing the medical profession and the dental profession will come into their own, and will be doing a superb and superlative service for mankind and for the American people.

A DENTAL EDUCATIONAL PROGRAM

DR. SHEPPARD W. FOSTER, President of the American Dental Association, expressed his appreciation of the splendid presentation of the subject by Dr. Haggard. He had pointed particularly to the great cancer plague, one of the diseases which has carried to an early grave thousands upon thousands of American people. He had called attention to the frequency of cancer of the lip and of the oral cavity throughout, and had pointed out the ease with which these lesions are

observed by the dental profession. Dr. Foster believed the dentists were derelict in their duty if they overlooked these apparently simple, incipient lesions of the mouth, which frequently are insidious but gradually progressive, and ultimately reach a point where science is helpless to combat them. He hoped the dentists would all take to heart what Dr. Haggard had said.

Dr. Foster was greatly interested in the health program and the close contact which dentistry has with such a program. If the dental profession is to perform its duty in the great field of health service much depends upon their health program. No subject in many years has so engaged the dental profession as the prevention of disease, and he was proud to be a dentist, and an optimist.

An exhaustive survey of the dental institutions of the United States and Canada was made in 1920-1921 by Dr. William J. Geyse, under the Rockefeller Foundation, assisted by the Dental Educational Council of America. This was a splendid thing and the inspection was heartily participated in by the various colleges. The publicity coincident with this survey attracted the attention of the profession toward dental education, and not a few of the most illustrious and sincere teachers of dentistry have become imbued with the idea that if radical changes are not made in the educational program dentistry is to be junked and the medical profession will establish a system of stomatology, or some other ology, and do away with dentistry. Dentistry will grow in its own field to be as competent as medicine to render health service, or it will not. The choice lies entirely within the profession. If it will not grow, medicine, responsive to public needs, will institute the specialty of stomatology and then dentistry will necessarily be but an assistant to that specialty. In a recent editorial in the *Journal of the American Dental Association* the statement was made that "every leading man who is connected with dental education, as well as some others, seems to be imbued with some particular plan, over which has arisen much confusion." Many plans have been proposed, one of them being one year of university study, followed by a dental course of forty-four weeks each year, each year being divided into four quarters of eleven weeks. Another plan provided for one year of predental and four of dental college work, or five years in a dental college. Another, a two-three year graduate plan, two years of university and three years of dental college work, a five years' course, leading to the degrees of B. S. and D. D. S. Another plan provided for two years as dental assistant, two years of dental hygienist course, three as dental technician, four as dental radiographer, five as dentists, with the degree of B. S. and D. D. S. being eliminated. The foregoing all contemplating admission to the dental college after completing four years of high school work. Sixth, dentists to take one year of graduate work and receive the degree M. S. Seventh, a course culminating in the D. M. D. degree, signifying proficiency in one of the special fields of dental science, this usually including two years of college work, two years in hospital, and one in research work, making a total of seven years.

Dr. Foster expressed his faith in the good conservative judgment of those who had the shaping of the educational program in hand, and believed that out of the seeming chaos would be evolved a sane system which would measure up to the so-called oral specialty of medicine, and yet retain that manual skill so necessary in the profession of dentistry. Dentistry has met every emergency and has carried out its educational program at all times sufficiently to meet every condition of society and geographical requirements. The first dental college in the world was established only eighty-six years ago, and it was not until 1910 that the American Medical Association, through its Council on Medical Education advanced to the high school prerequisite for the study of medicine. Dentistry has now officially advanced to one year of predental work. In making these comparisons, Dr. Foster saw nothing in dental education which need call for a self-appointed Moses with his own plan, with which he hoped to lead dentistry out of its dilemma and save it from the impending debacle. Dental education must continue with its onward march. Every phase of education, being directed to the service of mankind must direct itself to the modern program and advance, and must conform to the rational, orderly improvement. The greatest potential factor in the practice of dentistry has been the system of dental education. Looking back over the last forty years Dr. Foster recalled many men of prominence whose lives had been dedicated to dental education. The principal medium through which the world was made aware of the fact that dentistry has become equal to the profession of medicine was the truth discovered by research in dental conditions. If dentistry has been able to discover certain truth and establish them, it should be able to meet certain conditions without becoming panic stricken.

There are several things to consider in dental education: First, a resourceful, cultivated and scientific mind. Second, technic, skill. Third, the factor of supplying the demand, the ability of dentistry to average a certain number of graduates to supply service to the constantly increasing demands of the public. Fourth, the factor of time should not be lost sight of in the educational program. The biological investigations which have revealed the close interrelation with oral disease have caused many men to lose sight of mechanics and rely upon biological training. Because of such an unbalanced course of training, Dr. Foster could not advocate the two-four year plan, on economic grounds. He considered it too great a handicap to take six years of the most vital activity out of a man's life, saying nothing of the financial strain. If they fail to appreciate the factor of supply and demand they may find themselves in a serious dilemma. It has only been since 1918 that two years of university work have been required in medical education. Medical and dental education are analogous. Dr. Foster quoted Dr. William Allen Pusey's statement that a "four-year high school course should include two years of Latin, four years of English, one year each of chemistry, physics and anatomy and three years of mathematics and this should be a sufficient foundation for the study of

medicine." He felt that he was not alone in his opinion that advanced medical education is driving men into ultraspecialization. To his mind one of the saddest results is that this has caused the passing of the grand old family doctor, and it seemed to him that the family dentist was fast following in his wake. He could not endorse the educational plan which provided for seven different courses, his chief objection being that dentistry is robbed in its individuality and does not conform to established state laws.

The plan which he would endorse is that of the Dental Educational Council of America, which contemplates one year of university work, followed by four years of dental college work. The Educational Council has been deliberating and has concluded that the public can best be served and all requirements be met by the adoption of the five years' course, one of which should be predental. They believed this plan would meet with greater favor than any of the other programs. Geographical requirements and local needs must be recognized. Dr. Foster expressed his absolute confidence that conservative American judgment will prevail, that dentistry will continue to fulfill its obligations, work in harmony, and live on as a noble, independent profession.

Dr. M. M. Printz, the President of the Chicago Dental Society, thanked Dr. Haggard and Dr. Foster for their splendid and helpful contributions.

HEALTH AS A BUSINESS ASSET*

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We human beings live in the midst of forces which are mighty and unvarying. Our success, in fact even our lives, depend upon our proper and permanent relationship to these forces. These same forces control the lives of all plants and animals. With more knowledge of the world we have been able to use these forces in human advance.

Business is our organized method of dealing with the things about us and their relationships to the lives and well-being of people. With the development of modern transportation of goods and information, the business organization of each community has become the competitor in some degree with every other. In this matter of competition everything which increases the cost of goods or decreases the amount of productive labor, with the same number of mouths to feed and backs to clothe, results in the reduction of ability to compete.

Great cities have been built up because advan-

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tage has been taken of naturally favorable locations. Not a small part of these advantages have to do with the welfare and health of the human beings actually concerned. Our greatest cities and our greatest advances have come in those particular parts of the earth where the health and happiness of the human being could be most readily brought about. In the temperate zones the greatest progress has been made and for the most part the great aggregations of men in large units have taken place. While in the temperate zones plant life within a single year cannot produce the same amount of food from sunshine that it can in the tropics, the conditions are more favorable for the human being. This is due not only to the heat and sunshine but because man is the prey of a great variety of parasites, some visible to the eye and some microscopic. These parasites are capable of invading the human body, and of living in the blood and tissues, causing what we call disease. Most of the major diseases of mankind are due to living animal or vegetable forms with a capacity to grow in us or on us, and with a life cycle which permits them to be transferred from one human being to the next. In the tropics the conditions are more favorable for many of these plant and animal forms. In the temperate zones the changes in seasons make the life of many of these parasites difficult.

If we study the history of the communities of our own country, we find that by the application of facts which have been learned regarding these organisms which invade the body we have been able practically to eliminate a number of them. In revolutionary days, and for many years thereafter, typhus or jail fever (so-called), yellow fever, and cholera were constant menaces to cities like Philadelphia. When we add to this list typhoid fever, smallpox and malaria, we can better understand the health problem of our earlier American cities. Control of these diseases, all due to parasitic forms of life, had to wait upon the development of science. With the microscope and laboratory, the relationship of yellow fever and of malaria to the life of the mosquito became an every-day fact. Pure or properly treated water and the protection of food supplies practically eliminated cholera, and is eliminating typhoid fever. Universal vaccination secures a community against anything more than sporadic cases of smallpox. One can

visualize what modern science means to the business of the community when one thinks what yellow fever has meant at times to New Orleans, and what enormous losses the presence of epidemic diseases almost universally causes.

There is no argument as to the business asset which health is to a community. Assets are balanced off against something called liabilities. The amount of assets depends upon the amount of liabilities; and when we read the liability sheet of our industrial and agricultural communities we can see at once that one of the ways to increase our assets and our wealth is to reduce these liabilities. Our assets are largely the stored-up products of human labor and the capacity of human bodies to do additional labor. These depend upon human physical and mental capacity.

There are probably in this country about two million industrial accidents in a single year, with some thirty thousand deaths and three hundred thousand seriously injured. Some three millions of people are ill at any given time. A million and a half die every year. A million and a half are constantly suffering from diseases which can be prevented. A half million people have tuberculosis in our country at the present time; one-half of these are a complete burden, as they are totally incapacitated; one hundred and fifty thousand of these die every year. About one-half of the cases that require such assistance as is given by organized charity are disabled by sickness. It is probable that not less than a million and a half individuals carrying about the organism which causes what we call syphilis are within our borders at all times. It is quite clear, then, that aside from the accidents, many of which could be prevented by proper precautions, we have a long way to go before we conquer those parasites which now disturb our social and economic and personal lives, in the way we have already controlled a considerable number on this continent.

We have to remember that, no matter how much we may improve our environment and increase our education, the human body remains practically the same. It is just as good a place now to provide nutrition for the smallpox virus and the typhoid bacillus and the malarial germ as it was a thousand years ago. We have learned certain ways in which we can assist the body in holding off organisms; but it is a much simpler

process to set up and organize our community life so as to control them, possibly through clean water, clean food and quarantine, than it is to endeavor to increase the resistance of thousands of individuals.

One of our prime difficulties is the reaction of the individual to health programs. Many are prejudiced, opinionated and uninformed. Each person is apt to think of his own woes and his relief from them as pointing to some universal law. The natural ability of the body to throw off invading parasites and to recover from ailments has made patent medicine reputations and developed many isms. There is a great difference in individual constitutions and a great difference in self-control. The natural control of the healthy body is difficult with the diversity of available foods, the common lack of exercise, and the strains of modern life. The economic changes that have brought together great masses of people are all controlling. They have made it possible for collective units to live comfortably and to build up wealth until they compete more satisfactorily than would otherwise be possible; but in doing so they have taken away from our boys and girls the normal childhood which the human race has known for thousands of years. Most of our children are born with bodies that can be kept absolutely sound only by exposure to the sun, good food and regular physical work throughout most of life. Through our schools and playgrounds and parks we make some effort to replace that which we have taken away from our young people.

There are too many of our citizens who grow up and pass through what someone has called the "merry-go-round," as indicated in the conversation between two friends: "So George finally died in abject poverty." "Yes, without a nickel. You see, he lost his health trying to get wealthy; then lost all his wealth trying to get healthy."

Every failure of the individual to keep his body sound and his mind acting well is a penalty in his life and a penalty to the community. A community can buy health if it wants to; it has to pay the deficit on poor health whether it wants to or not. It has to make a distinction between the cost of the prevention of disease and the cost of the results of disease. There is no escape from the cost of the care of the indigent, the insane, the feeble-minded, the chronically sick, those afflicted with infectious diseases, the very

old and the very young; but these costs can be cut materially by long, intelligent health programs.

Every one out of whom we secure productive labor goes on to the asset side. Every one temporarily or permanently removed from productive labor goes on to the liability side.

Our information at the present time, due to the studies of research workers all over the world, is such that we can say that if any well-situated community of fifty thousand people would adopt and put into practical every-day use all that we now know of medicine and science, and all that we have been actually using in the control of many soldiers in war, there would be such an increase in human happiness and effectiveness, and such a decrease in sadness and inefficiency, that in ten years it would make that city the wonder of the world. If we simply cared for all of the children of the community as well as the good breeder does his blooded stock we should remodel the next few generations.

We do not do this, because our pace is modified by the protestants and the unwilling, those with prejudices and without vision. Nevertheless they should not stop progress. There is always, and there will always be, a noisy minority which must be dragged forward as we go ahead in somewhat the same manner that a reluctant cat pointed north goes south when there is a strong pull on its tail. In fact, we can measure our progress to some extent by the degree of vociferousness of those who are reluctant to advance.

Purely as a business proposition, no modern community can afford to neglect the element of health if it views its life over a period of a half-century or a century. The communities that win in the great future competition will be those which have the brains, the health, both mental and physical, and the willingness to work with vision. Man is reaching entirely new possibilities with invention and science as his aids. His ultimate success will depend upon his ability to apply these to the every-day handling of his own body and his own mind. He can lose in the battle of business if he lets the human liabilities pile up too high.

This city of Chicago is a great monument to modern science. Its happiness and effectiveness would be largely destroyed if certain constantly used methods of handling water, milk and other

foods, and certain rules of quarantine were neglected, or all of its hospitals closed. Health, happiness and good business go together. If I had to name the best business asset of a community I would say "Universal good health."

SURGERY OF THE GALLBLADDER*

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Graham and Cole have utilized Rowntree's discovery that the dye phenolsulphonephthalein was excreted through the bile to develop cholecystography, working first with phenoltetrachlorophthalein, which in the gallbladder gave a faint shadow under the x-ray, later with the corresponding iodine, and finally with the bromine substitution product of phenoltetrachlorophthalein. Their experiments led the way to the discovery of the physical condition of the gallbladder by the shadowgraph, a diagnostic aid of tremendous importance. Cholecystography is valuable from the negative as well as from the positive side. When no shadow of the gallbladder is seen on cholecystographic examination we know that there must be occlusion of the cystic duct, probably as the result of contraction on gallstones, or strictures which acted as mechanical blocks. When the test is positive, the shape, size, and general position of the gallbladder are shown, and stones which otherwise might be overlooked may sometimes be recognized. My colleagues, Carman and his associates, find that the test is of value in more than 85 per cent. of cases.

There is a serious type of cholecystitis, however, which at times gives rise to active symptoms, in which the bile ordinarily enters and leaves the gallbladder without mechanical blockage. The condition is most common in connection with "cholesterosis," or "strawberry" cholecystitis, and papillomas of the gallbladder. Besides this type of disease there may be gallstones so small that they cannot be detected by palpation of the unopened gallbladder at surgical operation, and which do not prevent bile from entering and leaving the gallbladder, when not in the acute stage.

In the earlier time, in doubtful cases, we opened and examined the interior or suspected gallbladders, removed a piece of the mucosa for

microscopic examination, and, guided by the findings, closed the gallbladder or performed cholecystostomy or cholecystectomy as seemed wise. Some of the patients whose gallbladders were then apparently shown to be normal came back later, with continuing symptoms, for operation. We then discovered that "cholesterosis" or papilloma might exist deep in the pelvis of the gallbladder rather than in the fundus, and that the abnormality could not be detected by the sense of touch; of course, unless the gallbladder was destructively split from top to bottom, the condition could not be seen.

The old controversy, cholecystostomy versus cholecystectomy, like Banquo's ghost, will not down. In average cases, if cholecystectomy can be performed as safely as cholecystostomy, it brings about permanent cure in a much higher percentage.

It should be remembered that after cholecystostomy the gallbladder becomes fixed in adhesions, and the mere absence of symptoms is no indication that it is functioning. This is an all too common assumption. Many times I have operated for other purposes on patients for whom I had previously performed cholecystostomy, and on examining the gallbladder have found it buried in a mat of adhesions and obviously functionless. Of the patients for whom we perform cholecystostomy rather than cholecystectomy, we expect a certain number will later require removal of the gallbladder.

One hears a great deal about dilatation of the common duct following cholecystectomy in experimental animals. I have not been greatly impressed by these findings. There is a difference between a healthy dog with a normal bile tract and a sick human being with a diseased biliary apparatus. When the gallbladder is contracted down on stones, and cholecystographic examination shows that no bile enters the gallbladder, a fact proved later at operation, we might say, so far as function is concerned, that there has been a pathologic cholecystectomy; yet careful dissection of the common duct in these cases does not often disclose marked dilatation or any of the untoward findings which would appear to be peculiar to experimental animals.

In cases of acute cholecystitis, when the gallbladder is very large, distended and edematous, with localized peritonitis from complete blockage at the cystic duct, we have had the best re-

*Abridgment of paper read before the Chicago Medical Society, Chicago, January 20, 1926.

sults from direct dissection of the cystic duct at the common duct, early closure of the cystic duct with a pair of forceps, and removal of the entire gallbladder, which is easily enucleated with its contained stones and septic material. In acute cases of this kind it sometimes happens that the gallbladder is reduced in size by even gentle manipulation before one can block the cystic duct effectually at the common duct, which leads to the suspicion that some septic material has been allowed to pass into the common duct. In this event, I leave the forceps on the stump of the duct after the removal of the gallbladder, or tie the stump at the common duct with a granny knot of catgut, leaving the ends of the ligature long, hanging outside the body, so that if there should be symptoms of retention in the common duct and failure of good drainage of bile through the normal channel, the threads can be pulled off or the forceps can be unclamped, allowing the stump of the cystic duct to open and permit free discharge of bile to the surface. The instantaneous relief that comes in the occasional case on the second or third day from this maneuver is most striking and gratifying.

When infection by *Bacillus coli* is found at operation, especially in association with perforation of the gallbladder, the condition of the appendix must be determined, since simultaneous perforation of the appendix and the gallbladder is not infrequent, and if overlooked may result disastrously. The history in such a case is usually that of frequent attacks of gallstone colic before that which caused the perforation, which resulted probably from a primary acute infection in the appendix secondarily activating a susceptible gallbladder. In cases of this type, when the condition is very acute, with spreading peritonitis, cholecystostomy with free drainage may be a better and safer procedure than cholecystectomy.

When cholecystostomy is performed on account of small stones, it is sometimes difficult to be sure that all the stones have been removed. In these cases I have found a maneuver which I learned from the late Dr. Ochsner very valuable, that is, plugging the gallbladder with iodoform gauze, thus leaving the gallbladder widely open so that, as the gauze comes out, a better opportunity is afforded for overlooked stones buried in mucous pockets to escape.

In cases of carcinoma of the gallbladder, our permanent cures have followed cholecystectomy

performed because the gallbladder was diseased, not because we knew the disease was carcinoma, early carcinoma being found on examination of the removed gallbladder in the laboratory. In all the cases in which carcinoma could be diagnosed at the time of the operation, either the condition proved to be inoperable or operation was followed by recurrence of the disease within eighteen months.

When there are stones in the common duct, especially after jaundice, or in the presence of jaundice, it is not wise to remove the gallbladder if removal can be reasonably avoided.

Walters, reviewing the statistics of surgery of the gallbladder and biliary tract in the clinic in 1921, found that the death rate from cholecystectomy with removal of stones from the common duct in the case of the jaundiced patient was considerably greater than that from cholecystostomy and choledochotomy, and in 50 per cent. of the cases of death following choledochotomy and cholecystectomy, performed in the presence of jaundice, necropsy disclosed more than 300 c.c. of blood in the abdomen. These facts led to the institution of methods of prevention (the intravenous use of calcium chlorid and other means when necessary) of postoperative hemorrhage in the jaundiced patient which have lowered the incidence to postoperative bleeding in these cases to less than 1 per cent., provided the biliary obstruction has been relieved adequately at operation. The liver in cases of jaundice is friable and congested, and will bleed very freely, even from a needle puncture. Finally, in any case, when I believe the risk of cholecystectomy will be greater than that of cholecystostomy, I do not insist on the removal of the gallbladder at a primary operation.

The incision which we have used in operating on the biliary tract is based on that of Bevan, beginning as high as possible between the ensiform cartilage and the costal margin and passing down about 1 or 2 cm. to the right of the median line, and of sufficient length to enable easy manipulation and also to permit the examination of the appendix and its removal if necessary.

I have found very helpful the suggestion, made by L. L. McArthur some years ago, to leave the peritoneum and the posterior oponeurosis of the muscle uncut in the lower one-fourth of the incision. These tissues can be retracted readily, and protect the lower part of the wound against

hernia. Whereas hernia frequently used to follow operation on the gallbladder, I have seen none in the lower part of the incision since I have followed this practice. The liver usually comes down under the upper part of the incision, so that only a very small space is left unprotected.

In fleshy patients, if drainage is used, and sometimes a very considerable amount must be used, it is wise to bring the drains out through a stab wound well to the right so that the main incision can be completely closed. The hernia which sometimes follows the institution of drainage through the original incision can thus be readily avoided.

A STUDY OF INSTITUTIONALIZED EPILEPTICS*

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One hundred and twenty male epileptics resident at the Dixon State Hospital were made the basis of this study, which was begun in January, 1924, and carried over a period of a year. It includes 32 definitely feeble-minded patients (26.6%) and is presented as follows:

Etiology:

Neuropathic hereditary factors.
Epilepsy, psychosis or feeble-mindedness.
Alcoholism in parents.
Alcoholism in other collaterals and ascendants.
Migraine in parents.

Physical Traumatata:

Infectious diseases.
Chronic intoxications.
Alcoholism.
Constitutional states.

Age of Incidence:

Duration of Affection:

Physical Findings, Including the Neurological:

Laboratory Findings:

Mental States:

Aura:

Immediate.
Indirect.

Treatment and Results:

Program for the Future:

Etiology. In the group as a whole nineteen

cases (15%) gave a definite hereditary history, either a parent or some collateral member of the family was epileptic, psychotic or feeble-minded. In but one of the cases was there a migrainous history. This incidence of hereditary factors is doubtless misleading. Fuller histories might have revealed a richer familiar background, yet Bassoe in 1923 reviewing 200 cases, mostly from his private practice, was only able to obtain four cases with a history of epilepsy in parents. In this series epilepsy, psychosis and feeble-mindedness were considered as basic hereditary factors not only in the parents but also in the collaterals of either parent, so that comparison with Bassoe's findings cannot be made. He considered a history of enuresis to be of some predisposing value, though this relationship is questionable.

In fifteen cases (12%) alcoholism of one or both parents, rarely in both, occurred. In nine cases alcoholism in parents or collaterals was the only evidence of neuropathy. In thirteen instances epilepsy alone was noticed in some member of the family. In eleven cases alcoholism was combined with other neuropathic conditions, viz., epilepsy or a psychosis, either in parents or collaterals. In fourteen cases there was a combination of factors present. In one case migraine occurred in the mother. In no case was there a family history of lues. As illustrative the following cases are cited:

L. H., male, aged 34 years; epilepsy at 7 years following a cerebral concussion; father psychotic and alcoholic; one paternal cousin epileptic; daughter of cousin epileptic. Patient is feeble-minded.

D. R., male, aged 28 years. Epilepsy at 21 years, no exciting cause given. Father was 30 years old at time of patient's birth and developed epilepsy five years later. He is also a patient at this hospital.

C. M., male, aged 71 years. Epilepsy at 59 years; married, three children, none epileptic, one grandson epileptic.

Physical Traumatata and Infectious Disease: Sixteen cases (13.3%) were alleged to have followed an infectious disease, eight after meningitis, three after poliomyelitis, one case each after mastoiditis, tuberculous osteitis, typhoid fever, rubeola and pneumonia. In seven of these cases epilepsy, alcoholism or tuberculosis was present in the parents or collaterals. The following are illustrative cases:

A. M., aged 18 years. Poliomyelitis at age 18 months with epilepsy following. Father was a drunkard and grandparents on both sides feeble-minded. Patient is feeble-minded.

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G. P., aged 24 years, following pneumonia at age two years, developed petit mal attacks which have gradually changed into grand mal. The family history is negative. Patient is not feeble-minded.

H. W., aged 23 years, after poliomyelitis at age two years, developed epilepsy. Maternal grandmother was epileptic. Patient is not feeble-minded.

In twenty-seven cases (22.5%) various traumata were alleged to have preceded the development of epilepsy, falls on head in eleven, blows on head in seven, definite forceps injury in one, head injuries not specified in two cases. Of the twenty-seven, twelve developed convulsions within a year. In the remainder the subsequent advent of the epilepsy ranged from two to twenty years later. In three cases epilepsy followed falls, no statement of the exact injury being made. In one of these cases the symptoms appeared within a year, in another no time was given, and in the third the interval was two years. In one case the attacks followed two months after an electrical shock. In two more cases convulsions appeared within a year after being scalded with boiling water.

The traumata was received in:

- 11 cases in the 1st decade.
- 11 cases in the 2nd decade.
- 3 cases in the 3rd decade.
- 2 cases in the 4th decade.
- 1 case in the 5th decade.

Among the twenty-seven cases alleging prior traumata, psychosis is mentioned in the family history of one, psychosis and alcoholism in two, epilepsy in three. The following are illustrative cases:

E. B., aged 42 years, at 19 fell from telephone pole, striking on head and was unconscious three weeks. Recovery was complete but two years later he developed epilepsy. Family history is negative. Not feeble-minded.

J. M., aged 46 years, at 26 struck head on cement floor of swimming pool while diving. Shortly after this he developed convulsions. Patient had been a heavy drinker 11 years prior to this accident; is not feeble-minded.

Chronic Intoxications—Alcoholism: In two cases chronic alcoholism preceded the epilepsy. Both had negative family histories and both developed late epilepsy, one at 29 years and the other at 44. Neither was feeble-minded.

Constitutional Changes: In two cases epilepsy followed a hemiplegia:

W. B., at 20 years of age had a "stroke" affecting his entire right side and his speech to some extent. Convulsions started somewhat later, but he is unable to give definite date of first convulsion.

E. S., aged 21 years. Had a stroke affecting whole

right side, could not talk for three months and about four months after this convulsions developed.

In the first case no data could be obtained on family and in the second case the father was alcoholic.

Age of Incidence

Under 18 months.....	9 cases
19 months to 3 years.....	14 cases
4 years to 5 years.....	8 cases
6 years to 10 years.....	16 cases
11 years to 15 years.....	23 cases
16 years to 20 years.....	18 cases
21 years to 30 years.....	20 cases
31 years to 40 years.....	4 cases
41 years to 50 years.....	5 cases
51 years to 60 years.....	3 cases
No cases over 60 years.	

Eighty-eight of the 120 cases became epileptic prior to the age of 21 and of these 23 between the ages of 11-15 years. Patrick and Levy have endeavored to show the relationship between early convulsions and those occurring in later life. They found that infants having convulsions prior to six months and after seventeen months were more liable to develop epilepsy in later life than if the convulsions fell within the intervening period. In the present series fifteen cases gave a history of infantile convulsions occurring at the age of six to sixteen months, the intervening period of the above authors. Of the fifteen cases five had a positive hereditary history.

Duration of the Affection

From 1 to 3 years.....	1 case
From 3 to 5 years.....	5 cases
From 6 to 10 years.....	18 cases
From 11 to 15 years.....	21 cases
From 16 to 20 years.....	23 cases
From 21 to 30 years.....	32 cases
From 31 to 40 years.....	12 cases
From 41 to 50 years.....	7 cases
From 50 to 52 years.....	1 case

Physical Findings. In 35 cases (28.3%) the palate was high and narrow; over half this total was found among the previously mentioned feeble-minded group.

Suggestive signs of endocrine disturbance were present in 43 cases (35%)—definitely enlarged thyroids, spaced teeth, large upper frontal incisors, cretin-like habitus, habitus feminus, stature anomalies, dry skin, coarse hair, abnormal hirsutism. Valvular lesions of the heart occurred in 9 cases, low blood pressure in 11, high in 4.

Various chest conditions were encountered in 16 cases—pulmonary tuberculosis, viz.,—emphysema, asthma, etc.

Abdominally, all cases were negative for any gross pathology.

Neurological Findings. Paralysis was present in 12 cases, 11 hemiplegias and one case of facial paralysis. There were concomitant muscular movements in 19; for example, similar movements of a hand when the other is voluntarily flexed as in gripping. It appears to represent a spreading of the impulse, an overflow, a leak somewhere along the motor path. Just what it is due to is not known, but it is part of an organic picture and is found quite frequently in organic or symptomatic cases of epilepsy. Abnormal muscular movements in 8, disturbance of sensation in three, and muscular incoordination in 8 cases.

Argyl-Robertson pupils were found in two cases. (Blood and spinal fluid were both negative to Wassermann reaction in one of these cases; in the other the reaction was positive on the blood and on the spinal fluid.)

Abdominal reflexes were absent in 8 cases and conjunctival in two. Pharyngeal reflexes were very sluggish in 5 cases, jaw jerk present in 23 cases, patellar reflex absent in one case, who also had Argyl-Robertson pupils. Achilles reflex was not obtained in two cases. A Babinski present in three cases, one of which gave Chaddock's phenomenon. All three were hemiplegics.

Laboratory Findings. Blood Wasserman was positive in only three cases, the spinal fluid in one case; 27 single urine specimens were positive for albumin, from a faint trace to a heavy trace. Glycosuria was not present in any case. All were consistently acid and the specific gravity varied from 1.004 to 1.034.

Mental State. Exclusive of the 32 feeble-minded patients but 12 cases showed marked mental deterioration; the remainder displayed more or less the characteristic epileptic mental attitude.

Aura. A direct aura was present in 62 cases as follows: Unilateral aura, a movement or sensation in a foot, hand or arm was present in 5 cases. Bilateral sensation in the limbs was present in six cases. Certain aura were referred to various organs, to the ears in three cases, to the stomach in 10 cases, to throat in one case, to eyes in two cases, to heart in one case. Dizziness occurred in 19 cases. Pains in head and certain other sensations were present in 9 cases. An indirect aura was present in 14 cases. Aura of this na-

ture, if present, precede the convulsive attack by a few days, during which time the patient complains of vague muscle pains, becomes more irritable, claims to be neglected or abused, etc. One usually finds no basis for their complaints. Two days later a convulsion occurs or a series of them, after which they revert to their usual selves. Aura of either kind were absent in 34 cases. In 11 cases it was not possible to ascertain whether or not an aura was present. In general one may observe that the more sudden an attack convenes, the less chance there is of it being ushered in by an aura. It will be seen that in this study aura, either direct or indirect, were present in 75 cases (62%) and absent in 34 (28%).

Treatment and Results. During the course of the year 14 of the patients reported in this series returned home. These cases have been purposely left out of this portion of the study, since they could not be adequately followed while away from the institution.

Forty-six cases showed a decided improvement in the number of recorded convulsions, but in only one case did the records show an entire absence from attacks.

Thirty-three cases remained stationary so far as the number of convulsions were concerned.

Twenty-seven cases showed an increase in the number of seizures.

In order to gauge results of treatment the records of the first six months were compared with those of the second six months. This was not a fair comparison, but previous convulsive records were very incomplete. Of the unimproved cases but one case developed status epilepticus. Eight cases in this group were able to be at work daily. In all, 76 men of the group were at work almost daily in laundry, carpenter shop, bakery, office and with various outdoor details about the grounds.

Opinion is divided as to the cause of epileptic deterioration, some ascribing it to the number and severity of the convulsions, while others ignore this factor as the cause. Our observation would appear to substantiate the theory that the deterioration is associated with the number and severity of the seizures, since those whose convulsions were reduced appeared much more active mentally, seemed to take a new interest in life and lost that irritability of manner toward each other which is the bane of those in charge of

such cases. Petty quarreling was minimized and fewer accidents were recorded. More days of productive labor were enjoyed in the various activities in which the patients engaged. As a whole, the group was exceptionally healthy, but two deaths being recorded, one the result of skull fracture following a fall and the other from a lobar pneumonia in an elderly patient. It was, however, noticed that in some few instances, despite the small number of convulsions suffered, the mental condition rapidly deteriorated.

It should be borne in mind that institutional care means more than simply giving out so much luminal, or so many drams of bromide solution, daily. It includes not only a separation from irritating family ties and an adverse environment, but the establishment of the patient in a certain uniformity of habit which undoubtedly redounds to the well being of the patients. Regularity is the watchword. Certain hours are set aside for sleep and there is a time for rising and for breakfast, dinner and supper. Simple amusements play their part. Routine is not so strict that the monotony kills. If the patients tire of their employment another line of endeavor is made available if the dislike is well founded. No attempt is made to coddle them, however.

The diet is simple, largely vegetable. No effort is made to keep it salt free, even in those cases that are on the bromides. With present facilities it was found that this attempt resulted in more commotion and irritability among the patients than an increased efficiency of the bromides warranted. Meat is not entirely avoided, the group getting about five ounces daily per capita. Recent investigation appears to show that an acidosis is more favorable in the epileptic than the alkalosis formerly taught to be the more desirable. No regular catharsis is resorted to. Mineral oil is given freely to those who request it and need it. Salts are given only on the physician's orders; following a convulsion it is often used, also in those cases where there is an indirect aura and time is had to obtain results.

Of the 46 showing an improvement in the number of recorded convulsions, 8 were on luminal alone, 22 on combination of luminal and bromide, 9 on bromide alone and 2 on potassium boro-tartrate, a French preparation, and 5 on a combination of potassium boro-tartrate and luminal. In 32 cases the convulsive state remained

stationary; that is, there were as many convulsions the second six months as there were the first. Of these 32 cases, 9 were on luminal alone, 8 on luminal plus bromide, 9 on bromide alone, 3 on potassium boro-tartrate, and 3 on a combination of potassium boro-tartrate and luminal.

In 27 cases the convulsions of the second six months were increased in number over those of the first six months. Seven of these were on bromide, 9 on luminal alone, 5 on a combination of luminal and bromide and 5 on potassium boro-tartrate and 1 on bromides alone. For the whole group under treatment the dosage of luminal varied between $1\frac{1}{2}$ grains and $4\frac{1}{2}$ grains daily, that of bromide never more than 45 grains in the 24 hours and when given in combination with luminal not more than 28 grains with $1\frac{1}{2}$ grains luminal, while not more than 50 grains of the potassium boro-tartrate were given.

It is hard to make any definite statement as to dosage, since the treatment must always be an individual one. With luminal, as Grinker says, "one must start with a low dosage and gradually feel one's way to higher ground." With the bromides it is equally important to make progress slowly. A modified Paulsson method has been adopted at Dixon; that is, an initial dose is decided upon and this is raised at intervals of 2-4 weeks until a dosage is reached which just checks the convulsions without any other apparent action upon the patient. This dosage is then continued as long as successful. No case upon bromides developed an acne of any appreciable extent, neither could it be said that they appeared stupid. No untoward effect was noticed in the administration of the luminal. In those who received $4\frac{1}{2}$ grains daily there was at the beginning of the larger dose a feeling of euphoria, but within a week this feeling of exaltation passed. Illustrative of simple luminal treatment are the following:

H. D.—From January to June, 1924, the patient had 66 convulsions, or an average of 11 per month. During this time he had been on luminal, grains $1\frac{1}{2}$ daily. In July $7\frac{1}{2}$ grains mixed bromide were added and he showed some improvement in the number of convulsions. In August the bromide was dropped; an additional $1\frac{1}{2}$ grains of luminal and improvement continued. In September the luminal dose was again increased to a total of $4\frac{1}{2}$ grains and his record for the second six months was 25 convulsions, a reduction of 41 seizures in the six months. This was a case of

idiopathic epilepsy. An effect of small doses of luminal is seen in the case cited below:

I. G.—This patient was placed on bi-weekly intravenous injection of a five per cent peptone solution dating from December 5, 1923, to April 18, 1924. During this period he had 32 convulsions. On April 19 he was given luminal, grains $1\frac{1}{2}$ daily. He was continued on this dosage and up to April 12 this year had 12 convulsions. This was a case of organic epilepsy.

Combination of luminal and bromide:

O. B.—From January to June luminal grains $1\frac{1}{2}$ were given daily with a total of 23 convulsions for the six months. At this time 15 grains of mixed bromide were added to the luminal dose and continued during the next six months with a total of 12 convulsions for the period. In this case epilepsy followed a tuberculous osteitis. A cousin was epileptic and the mother died of tuberculosis.

Simple bromide:

F. L.—This case received 15 grains mixed bromide throughout the year with a total of five convulsions during that time. This was an organic case of epilepsy and patient is luetic.

PROGRAMME FOR THE FUTURE

Our future programme includes the obtaining of better histories gotten if possible directly from the parents and preferably from oral interviews. An attempt will be made to ascertain the value of endocrine therapy in selected cases presenting evidence of internal glandular disturbance. An effort has already been made in the application of occupational therapy in the treatment of these cases, but as yet it is too early to give any startling results. A closer study of the convulsions in the individual patient should be made, and this will be attempted.

CONCLUSION

19 cases (15%) gave a definite hereditary history; either a parent or some member of the family were epileptic, psychotic or feeble-minded.

15 cases (12%) alcoholism was present in one or both parents, rarely both.

15 cases (13.3%) epilepsy followed various infectious diseases.

27 cases (22.5%) various traumata preceded the advent of the epilepsy.

88 cases (74%) became epileptic prior to the age of 21 years.

Aura, direct or indirect, was present in 75 cases (62%) and absent in 34 (28%).

Under treatment 46 showed an improvement. 32 remained stationary. 27 were unimproved.

In closing, we wish to mention the untiring

cooperation of the managing officer, Dr. Warren G. Murray, who has made this work possible.

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DISCUSSION

DR. GEORGE W. HALL, Chicago: This is one of the first papers we have had on the subject on work done in Illinois. I am in hopes that the work will be carried out still further.

We hardly realize that one person out of every 500 has epilepsy. That is a very big percentage.

It is very important that attention should be given to this subject. While I am not inclined to discuss the cases especially which Dr. Hall has brought out, I would like to mention from a practical standpoint the frequency with which we overlook the cases in our private practice. Especially is that true of the so-called petit mal cases. The petit mal is the dangerous condition because of the fact that it is overlooked for so many years before it is recognized as epilepsy. So frequently it is not recognized as epilepsy until a major attack has come on.

Another thing regarding the origin of epilepsy. He mentions trauma and in the same instance he mentions alcoholism. I think alcoholism apparently has a great deal to do with the development of epilepsy in the offspring. This certainly has a great deal to do with the development of mental defects and with points of low resistance in the central nervous system and in the brain. That has been shown very well at the Carnegie Institute in New York where they have animals under the influence of alcohol daily for a period of four or five years.

I remember seeing one animal eight years old which had been intoxicated every day for five years. And the offspring from that animal showed such vast disturbances in the central nervous system and in the brain especially for a period of at least three generations. And then the fourth generation came back to normal again. So that I think heredity plays a great part.

Another thing we are not giving enough attention to is a lot of the border-line types, in which the patient gives a history of seeing double for a few days and then develops the evidences of encephalitis or epilepsy or other mental disturbances. So that in those cases the outlook is bad.

Another thing mentioned by Dr. Hall is the importance of going into the early history of these cases. The first few months of life we get histories of convulsions, spasms so to speak. The mother will say that the child had a spasm or two in early infancy. Then they skip a few years and then the epilepsy asserts itself during the adolescent state. Very frequently we find that condition to be the case.

He speaks about the Argyll-Robertson pupil in one or two cases where there was a blood examination and spinal fluid examination in question. In many of those cases where we have the Argyll-Robertson pupil

encephalitis has preceded it. We have to get away from the idea that the Argyll-Robertson pupil is pathognomonic of syphilis. We get that in cases of encephalitis. The probabilities are if we could get a proper history we would find that the patient has had some of the milder symptoms of the abortive type of encephalitis.

DR. THOMAS G. HALL (Closing): I can't say a whole lot. I might emphasize the importance of obtaining a good history whenever possible. In state service it is often quite a task, either the people are too ignorant to give a proper history or on the other hand their family pride holds back much important information.

Recently a prominent man residing in a nearby city came with his son who is an epileptic. I went into the history very carefully with him. He denied there was anything at all in the family. Within the next two weeks his wife visited and told me there was a case of a paternal cousin who had epilepsy. Her husband had said, "You don't have to tell them everything."

Quite recently the relation of infantile convulsions to those occurring in later life has been stressed. At our hospital we are endeavoring to build up some statistics on this point. Epilepsy is a condition which everyone sees. Hardly a man in private practice hasn't one or two cases. I do not think that we should allow its mysteriousness to cool our ardor in the search for its elucidation.

CHOICE OF AN INTESTINAL ANASTOMOSIS FROM AN ANATOMICAL AND TECHNICAL STANDPOINT, EXCLUDING THE RECTUM*

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The important topic of intestinal anastomosis which has been discussed from many angles is again before us, this time to consider the choice of the various types of anastomosis in different locations in the intestinal tract from a study of the anatomical facts as they normally exist; from a technical standpoint to accentuate certain details which experience has proved of value and so apply them to simplify the operation and minimize the risk of leakage.

Experimental work has shown that the details of repair of any intestine following an anastomosis passing through the stages of active hyperemia, slough, reproduction of glands, rapidly formed plastic exudate, granulation tissue with the ultimate scar give equally brilliant results from a healing standpoint in any type of anastomosis if the fundamental principles of hemostasis

and sero-serous apposition are adhered to and if sepsis is made an integral part of the procedure.

Standardization of technic has been accomplished. It is best expressed by the description of Moynihan when he said to be successful an anastomosis should be simple, rapid and one that is applicable to all forms of intestinal anastomosis. With the details of repair known and the technic of intestinal suture standardized, the choice of the type of anastomosis in the various portions of the intestinal tract will depend upon the following salient conditions.

1. The anatomical facts as they are found in the abdomen.
2. The pathology present.
3. The effort of any operation after the eradication of the pathology, namely, the restoration of structures to as closely normal as possible.

INTESTINAL TRACT

The intestinal tract is not anatomically uniform either in size or as regards its peritoneal coverings. Let us briefly consider the different parts separately and choose the type of anastomosis based upon the above-mentioned principles for our selection.

Choice of an Anastomosis in the Small Intestine from an Anatomical Standpoint: The small intestine is a convoluted tube varying in diameter from 5 cm. at its upper end to 2½ at its lower end. Normally there are no blind pouches. There is not any division of circular muscular fibers so necessary in peristalsis. Any operation which produces this condition should be avoided. In at least its upper one-third the small intestine is of reasonably large size. Suturing therefore is simple. It is practically free from food and bacterial contaminations in its upper one-half. Therefore smearing of the peritoneal cavity is of secondary consideration. Less time is consumed in an end-to-end anastomosis. There is not so great a chance for leakage because a smaller amount of suturing has been performed. A Maunsell mesenteric suture carefully applied takes care of the only dangerous step in the operation. If the pathology does not interfere and end-to-end anastomosis is the operation of choice in any part of the small intestine, because the continuity of the gut has been restored as it is normally found. It is simple, rapid and a restoration of structure as close to normal as possible has been accomplished.

*Read before the Section on Surgery of the Illinois State Medical Society, Quincy, May 19, 1925.

The occasional objection to the diaphragm formed with the subsequent decrease in the size of the lumen of the bowel should be always considered. It is a well-known fact that an obstruction in the upper jejunum brings fatal results more quickly than in the lower ileum. It is argued that the diaphragm formed by the turning in of the cut edge of the anastomosed gut is responsible for this condition. A lateral anastomosis is therefore chosen by some surgeons to overcome this objection. If in an end-to-end anastomosis the hemostatic sutures are properly applied, which are one-eighth of an inch from the free edge of the bowel and one-eighth of an inch apart, the end result will prove that the objection is more theoretical than actual. In the lower ileum the diameter of the bowel can be slightly increased, as experimental work has shown, by the application of interrupted hemostatic sutures.

End-to-End Anastomosis from a Technical Standpoint: A most important consideration from a technical standpoint in any anastomosis is the application of the clamps. In an end-to-end they should be so placed that they clamp the intestine and not the mesentery. I prefer the convexity of the clamps facing the resected portion of the gut. The amount of bowel projecting from the rubber clamps should not be more than three-quarters of an inch. This prevents the ends of the gut drooping and facilitates the insertion of the sutures. The angular suture which obliterates the mesenteric portion of the gut is never a difficult procedure if the needle is inserted through the mesial portion of the peritoneal triangle first and bisects carefully the fold of peritoneum on the lateral side. The triangular space is then accurately obliterated. As a general rule most surgeons after tying the knot within the lumen of the bowel use the free end for traction suture and consequently produce an uneven opening of the two intestines. If when a Maunsell suture is completed the needle is returned to the lumen of the opposite intestine and again tied, traction is equalized and the aforesaid objection is removed.

The change of suture from the posterior hemostatic to the Connell deserves very accurate attention. Leakage at this spot can easily occur. If care is exercised, however, in inserting the needle to the outside of the bowel parallel and in close contact to the ridge formed by the pos-

terior hemostatic suture and reinserted in the same manner on the opposite side of the bowel, the result will be a firm, tight joint.

In an end-to-end anastomosis the application of the clamps, the Maunsell mesenteric suture, and the change from the posterior hemostatic to the Connell suture are the most important from a technical standpoint and with a little care can be accomplished accurately, so that there need be no fear of a localized abscess from leakage or a general peritoneal infection.

Choice of an Anastomosis in the Large Intestine from an Anatomical Standpoint: From an anatomical standpoint the large intestine differs considerably from the small, both as regards its peritoneal covering and in a very important location as to its blood supply. The ascending and descending colon have peritoneum only on their anterior and lateral sides. Since approximately 30 per cent. of cancers of the large bowel are found in the cecum, the choice of the type of anastomosis following a radical resection of the proximal colon is of especial interest because it involves a union of the small and the large gut. On account of the lymphatic involvement, the resection should include the terminal six inches of the ileum, the cecum, the ascending colon and about one-third of the transverse colon. The choice of an anastomosis then is between an end-to-end, lateral and an end-to-side. The criteria for making this choice will be what type of anastomosis do we anatomically find in the intestinal tract between the small and the large intestine and an attempt on the part of the operator for a restoration of structure as close to normal as possible. There is but one spot in the intestinal tract where the continuity of the bowel is broken by one intestine joining another, and that is where the terminal ileum meets the cecum. The type of anastomosis which simulates it the closest from an anatomical standpoint is the end-to-side. The technic of C. H. Mayo of an end-to-side anastomosis after a resection of the proximal colon by the use of the Murphy button and the suturing of the cut end of the colon into the parietal peritoneum with a protrusion of the free ends of the cat-gut purse-string suture from the wound to open, if necessary, the distended colon is an ideal method and a far safer procedure than crushing and tying the end of the transverse colon and reinforcing it with a sero-serous suture.

A resection of a growth in the hepatic flexure or in the beginning of the transverse colon would be a selection of the same type of anastomosis and deductions would be arrived at in exactly the same manner. An end-to-side anastomosis simulates more closely the normal anatomical findings and, as a result of this choice, there is a restoration of structure as close to normal as possible. The choice after a resection in the transverse colon would be an end-to-end anastomosis for the same reason that it is used in the small intestine and, moreover, this completed anastomosis would cause less traction on the suture line.

The choice of an anastomosis following a resection of the splenic flexure and the descending colon would again bring together the opening in the transverse colon and the upper part of the sigmoid. In an end-to-end anastomosis the continuity of the gut is restored. There is less chance for leakage and a restoration of structure as close to normal as possible has been produced. The same principles of reasoning guide one to choose an end-to-end anastomosis following a resection in the sigmoid flexure.

Intestinal Anastomosis in the Large Intestine from a Technical Standpoint: One of the most important considerations from a technical standpoint in any resection of the large bowel is an adequate incision. A thorough inspection of the abdomen, with special reference to metastases in the liver, would indicate or contraindicate a radical resection. The importance of a free mobilization in resections of either the ascending or descending colon cannot be over-estimated. During either of these operations the vas deferens and the spermatic vessels are to be carefully avoided. It is a well-known fact that when the peritoneum is stripped upward and inward, the ureter remains attached to the peritoneum and is in grave danger of injury unless it is carefully stripped from the field of resection. When the mobilization on the right side is carried to the hepatic flexure of the colon, the lower part of the descending and the beginning of the transverse portion of the duodenum are exposed. Their anatomical location should always be kept in mind to avoid injury.

Time is always valuably spent in calling attention to the critical point of Sudek or Menasse. Ligature of the lowest sigmoid artery and the superior hemorrhoidal artery will result in a

gangrene of the portion of the intestine supplied by them. If a resection is necessary in this location, the ligature should be placed on the trunk of the inferior mesenteric artery above the origin of the last sigmoid branch. Blood can then reach the bowel through the marginal artery. The marginal artery is formed by a series of branches, by anastomosis of the left colic artery and the sigmoid branches. The superior hemorrhoidal artery does not divide into arch-forming branches but runs directly to the intestinal wall. Consequently, care should be exercised to ligate the main trunk of this vessel.

Suture Material: The selection of an absorbable or a non-absorbable suture has brought about an immense amount of experimental work and resulted in various opinions. Flint concludes that the healing process from the use of the different sutures is the same. Behrend observes the same results macroscopically. Microscopically, he found that the best healing was obtained from all catgut sutures. The choice of the size of the chromic catgut suture and the length and flexibility of the needle assist greatly in the technic of any anastomosis. The 0 chromic catgut measuring 15 one-thousandths of an inch in diameter can be used for the hemostatic suture. The 00 catgut measuring 12 one-thousandths of an inch in diameter can be used for the sero-serous suture. It is an interesting fact to know that catgut of this size is made from the anti-mesenteric border of the gut and cannot be split smaller than nine one-thousandths of an inch in diameter. In an anastomosis between segments of the large bowel or between the small and large bowel, or in cases of malignancy, a Pagenstecher linen suture should be used for the hemostatic and an 0 chromic catgut for the sero-serous layer. The use of this fine chromic catgut is self-evident. Moynihan found a piece of stout chromic catgut still present in an intestine three years and nine months after the original operation.

CONCLUSIONS

In every case of an anastomosis three salient points must be considered in its choice:

1. The anatomical facts.
2. The pathology present.
3. Restoration of structure to as close to normal as possible.

Consequently, an end-to-end anastomosis

should be performed when possible from an anatomical standpoint in every portion of the intestinal tract which is completely covered with peritoneum, namely, the small intestine, the transverse colon and the sigmoid.

A lateral anastomosis or an enterol anastomosis should be employed in gastro-enterostomies, cholecystenterostomies, where drainage is an essential factor, in cases of intestinal exclusion or between segments of the ascending colon and descending colon when malignancy is not considered and after free mobilization and resection.

On account of the anatomical considerations and special construction of the ileo-cecal valve an end-to-side anastomosis is the operation of choice between the small intestine and any part of the large bowel, as it most closely resembles the normal.

DISCUSSION

DR. J. B. O'DONOGHUE, Chicago: I want to congratulate Dr. Sullivan on the excellence of his paper. He brought out the fine points of the procedure in an end-to-end anastomosis, which I believe are very helpful to us and simplify the difficulty of this type of anastomosis in surgery.

Three of these points I have in mind are:

First: That we must consider the anatomy of the part in choosing the type of anastomosis.

Second: That the end-to-end anastomosis is a simple one and requires one-half the time that it does to make a lateral anastomosis.

Third: That the proper application of the Maunsell's mesenteric stitch, which he so clearly illustrated, simplifies the closing of the mesenteric angle and assures us against leakage at this rather weak point.

DR. CARL BECK, Chicago: Dr. Sullivan has very well described a most useful technic. I have found in my work after going through all the experiments and methods which have been introduced that one of the greatest difficulties we had as far as technic was concerned, aside from the location of the anastomosis and suturing, was that the opening was too small. It would lead to a great deal of immediate edema of the structures with the immediate danger of obstruction and later to a great deal of cicatricial tissue. I like the way he described the anastomosis with as little suturing as possible. In our early experience where we used the Czerny suture we found out that this was the correct way of getting these structures approximated with as little suture as possible. Schmieden has introduced a suture which I use very often. It is a serous suture and there is no hemorrhage or edema following its use.

DR. MATHER PFEIFFENBERGER, Alton: I want to compliment Dr. Sullivan on the excellence of his paper and the nice way in which he presented it. Each consecutive step was nicely explained and there was nothing left undone. When Connell first brought

out his suture I was doing my interne service in the St. Louis Hospital and we tried some animal experiments and found it was better to handle the mesentery by cutting it as close to the bowel as you could and thus avoid the larger vessels. By cutting very close to the portion of the bowel to be resected we dealt with the smaller vessels and paid no attention to the fan-shaped vessels above in the mesentery. We came to grief in one or two cases by having emboli form in the mesentery which produced gangrene. We found by cutting it as closely as possible to the intestine and then simply suturing it lightly with catgut that the result was better. On opening the dog about a month later we could hardly detect where the bowel had been cut; nature had taken care of the situation. That does away with the time necessary to take out this fan-shaped tissue and does away with the possibility of infarcts.

The point that impressed me very much in the Doctor's paper was to follow the teachings of nature and to cut in the line of the blood supply. If you cut in the line of the blood supply hematomas will not be produced.

DR. FREDERICK CHRISTOPHER, Winnetka: I would like to ask two questions, first, the type of suture material, and second, if he ever felt the necessity of putting in a third row in an end-to-side or side-to-side anastomosis.

DR. WALTER J. SULLIVAN, Chicago (closing discussion): I was certainly very glad to have Dr. Beck say a few words. We all know he was one of the pioneers of intestinal surgery. I recall that he was one of the first men to use the Murphy button in the human. The intestinal surgery of today is the result of colossal amount of experimental work which those men did not get the due amount of credit for. We take the cream of their work and do not seem to realize the amount of earnest effort expended.

In reference to Dr. Pfeifferberger's discussion regarding staying close to the mesenteric portion of the bowel. It is indeed a good point. After doing a large amount of dog work you note the difference between the dog's intestine and the human's. A dog's intestine has beautiful lunettes. There is practically no mesenteric fat; consequently, the blood vessels are easy to ligate. If you follow Monk's classification, in the human from the beginning of the jejunum down to the terminal ileum, you will find out there are seven or eight different branches as you descend and that the gut in the mesentery becomes very thick; therefore, it is an excellent point to stay close to the mesentery. One objection I see is when you come to the ligating of the mesenteric vessels unless you put in the first sutures very carefully there is danger of pricking the numerous vessels. If the mesenteric fat is thick when I resect a terminal ileum I merely cut through the mesentery and pick up the vessels afterwards. These are ligated at once.

As to the type of material, the first catgut to use is fine chromicized. We do not want to be mistaken about the number of 0 in the catgut. If you will

read the English literature you will find that Moynihan uses 000000 catgut. That does not mean anything. The finest catgut we can obtain in this country is 000, which is 9/1000 of an inch in diameter. It is made from the antimesenteric border of the gut. For a sero serous suture we use 0. In the anastomosis between the small bowel and the large bowel we always use Pagenstecher's linen and for hemostatic suture and for the sero serous suture use an 0 chromic catgut. In cases of malignancy we do the same thing but sometimes put in 3 rows of sutures. Moynihan cites a case in which he used stout catgut which was found intact in a subsequent operation two years and nine months later. He takes a different viewpoint than many of our American surgeons. He believes it is the sero serous suture that forms a loop in the bowel rather than a hemostatic suture.

THE DIAGNOSIS AND TREATMENT OF INFECTIONS OF THE FEMALE PELVIC ORGANS*

HENRY SCHMITZ, A.M., M.D.

CHICAGO

The clinical study of infections of the female genital organs may be separated into infections of the lower genital tract comprising cervicitis, vaginitis and vulvitis, and infections of the upper genital tract consisting of salpingitis, oophoritis, perimetritis and parametritis.

The bacteria mostly concerned in the causation of these infections are the gonococci and the strepto- and staphylococci. The tubercle bacillus, the spirocheta pallida and Ducrey's bacillus are of rare occurrence or less importance. Typhoid and colon bacilli, actinomyces, pneumococci and the organisms producing the exanthemata and usually accompanied by enanthemata also, may invade the genital canal. Since the exanthemata occur usually during childhood the complications in the genital tract may be overlooked unless the attending physician bears the possibility in mind and makes examinations of the genitalia during the course of such infections.

About 60 to 70 per cent. of genital infections are gonorrheal, about 20 per cent. septic, and about 10 per cent. tuberculous. The nature of the infection depends on: 1. The incidents of sexual life, such as cohabitation, menstruation, labor and puerperium. 2. Surgical instrumentation during examinations and operations. If the microorganisms are introduced from without, we say the infection is exogenous. If they result

from a focus of infection within the host, then the infections are endogenous.

The exogenous infections extend by ascension from below upwards, while the endogenous infections spread either through a descending route or the blood and lymph channels. The ascending mode of infection is seen in gonorrheal and septic infections. The modes of ascension are: 1. By direct extension upward. 2. Spermatozoa may carry the germs along. 3. Retroperistalsis may occur or regurgitation of discharges ensues by contraction and retraction of the myometrium. Ascension is facilitated during menstruation, when the internal uterine os and the tubal ostia are relaxed and opened widely; during puerperium, when loss of continuity of the surface epithelium and open cervical canal are present; and during instrumentation, especially sounding and curettage of uterus.

Descending infections are caused by migration of pathogenic organisms from the adjacent to the genital organs, especially if peritoneal adhesions are present. Thus the infectious germs found in appendicitis, tuberculous and septic enteritis and sigmoiditis, diverticulitis and proctitis, typhoid fever and actinomycosis may invade the genital organs. In hematogenous infections the bacteria are carried from distant primary foci to the pelvic organs by way of the blood and lymph streams. Tubercle bacilli, pneumococci, typhoid bacilli are thus conveyed to the pelvic organs.

Recognition of the infectious organisms is of considerable importance as an aid in diagnosis, prognosis and treatment.

From a practical standpoint the consideration of the infections may be limited to the gonorrheal and septic and, as the pernicious effects of the infections are usually spent in the cervix and uterine tubes, to cervicitis and salpingitis. The typical patho-physiological processes are alteration of tissues and cells, that is, the parenchyma: exudation of and infiltration by the cellular and liquid constituents of the blood; and proliferation of tissue. One or the other of these processes may dominate and we may speak of alterative, exudative or infiltrative and proliferative forms. The alterative form causes disturbances in function; the exudative or infiltrative form runs a stormy course, and the proliferative form runs a more insidious, chronic course.

In the differential diagnosis of cervicitis we must consider tuberculosis, carcinoma, soft and

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hard chancre. The differential diagnosis of tubal infection must comprise ovarian cysts, tubal pregnancy, tubal carcinoma; appendicitis, sigmoiditis and diverticulitis, para- and perimetritis, and endometriomata.

The signs of chronic cervicitis are the enlarged cervix of doughy consistency with profuse secretion and follicular or papillary erosions. Should the infection be confined to the cervical canal, then edema and hyperplasia may cause an ectropion which is discernible on inspection.

The treatment of gonorrheal cervicitis must be combined with the treatment of Bartholin's and Skene's ducts, the urethra and the bladder, which are usually found to be invaded. The ducts of Bartholin and Skene are cauterized with a platinum needle brought to a red heat. The urethra and bladder are daily irrigated with a 1:2000 silver nitrate solution until endoscopic and urine examinations are negative.

The chronic cervicitis of gonorrheal and septic origin is treated with the cautery knife as recommended by Hunner, Dickinson and Polak, or radium, as advised by Curtis, or diathermy, as suggested by Corbus and O'Connor. These agents cause a complete healing, usually with normal function. Douches, tampons, scarifications, and so on, have been superseded by these newer methods of treatment.

The treatment of acute salpingitis consists in absolute rest in bed, elevation of the head of bed, icebag or icecoil to the lower abdomen, daily low enemas, liquid diet, and so forth. If peritoneal irritation, tympanites and vomiting are marked, due to involvement of the peritoneum, then starvation, as recommended by A. J. Ochsner, saline nutrient enemata, and gastric lavage must be used. Gastric lavage is the best treatment to arrest vomiting and relieve tympanites,

The course of the acute stage can best be observed by the differential leucocyte count, the leucocytosis, the pulse rate and the temperature. The determination of the sedimentation time or sinking velocity of the red blood corpuscles may corroborate the clinical findings. A decrease in all the factors and an increase in sedimentation time mean a favorable influence of the conservative method of treatment. An increase in these factors means a very virulent grade of infection and a lessened resistance of the patient to the infection. An exudative form of inflammation is probably present. Under these exceptional

conditions *surgical drainage* is indicated. It is performed vaginally through a posterior colpotomy if the exudate points in the posterior vaginal fornix, or abdominally if the exudate is located high.

As soon as the acute stage has subsided and the patient has remained free from pyrexia for two weeks, resorption or organization of the products of inflammation may be promoted by the use of hot compresses to the lower abdomen during the night; diathermy, therapeutic lights composed of infra red or visible light rays. Iodine douches of 2 to 5 gallons of water at a temperature of 105° F., a duration of 15 to 20 minutes, are preferably given before retiring. The patient should be in a recumbent position during the douching. Abstinence from coitus is essential. The treatment is continued until the subjective condition of the patient is normal and bimanual examination does not elicit a sensitiveness of the pelvic organs.

About 65 per cent. of tubal infections may be permanently relieved by this treatment within about one year. The patients are able to enjoy life and resume the duties of everyday work. An additional 20 per cent. may be able to work, but have slight subjective symptoms. Chrobak saw normal labors occur in about 16 per cent. of unilateral infections and in 7 per cent. of bilateral infections. About 15 per cent. of the patients remain invalids on account of the persistence of peritoneal adhesions or exacerbations of the infectious process resulting from intestinal adhesions or reinfections. Surgery is indicated in these cases for the relief of the sequelæ of the infections, as adhesions and sterility, but not for the relief of the infection.

What of the pathology of the endometrium? What of the therapeutic efficacy of the curette? The investigations of Curtis on the endometrium in health and disease are that a patient with a history of chronic infection from whose endometrium bacteria are obtainable, almost all have salpingitis with equally good bacterial growth. The endometrium almost never shows bacteria except when there is infection of adjacent pelvic tissues. Chronic endometritis, per se, with bacteria present in smears or cultures is practically to be ruled out as a clinical entity. Intrauterine applications are, therefore, of little avail, for the most important focus of infection is well beyond their reach. This expresses the fallacy

of the use of the curette as a curative agent.

I shall not describe the different surgical procedures that may be used in the treatment of the sequelæ of tubal infections. They are of interest only to the gynecologist and surgeon.

CONCLUSIONS

1. The incidents of sexual life, as coitus, labor and purperium, instrumental examinations and operative procedures, are responsible for the majority of infections of the female genital tract.

2. The treatment of acute infections is a symptomatic, expectative one. Surgery is only then indicated in the acute state if the disease progresses from bad to worse, when early drainage must be instituted.

3. Surgery is indicated in about 15 per cent. of the tubal infections. It should not be employed for the relief of the infection, but solely for the relief of the sequelæ, as adhesions, sterility, and so forth.

4. In the light of recent researches, chronic endometritis should not be considered as a clinical entity. Curettage of the endometrium should be regarded as an obsolete method of treatment.

COMMUNITY GOITER PREVENTION AND EDUCATION*

W. J. POTTS, M. D.

OAK PARK, ILL.

A goiter is a serious, avoidable deformity, potentially dangerous. In the Great Lakes basin, the Pacific Northwest and Switzerland the problem has become extremely acute. The incidence of goiter is constantly increasing, due to: greater demands on the mental and physical reserves, greater skill in diagnosis, and a still further depletion of the iodine supply.

In Michigan,¹ in four representative counties, of 31,612 school-children examined 47.2 per cent. were goitrous: 40.5 per cent. of the 15,809 boys examined, and 53.8 per cent. of the 15,803 girls examined. An analysis of the water in these counties showed the iodine supply to be in inverse ratio to the goiter prevalence. Eldridge² made an exhaustive analysis of the iodine content of the water supply of Michigan and the surrounding lakes. The surface water showed no iodine; the deep well water in some counties contained

from 3 to 92 parts of iodine per billion; the waters of Lake Michigan 0.5 part per billion.

An examination of the High School girls in this community (Oak Park) in 1924 showed that 34.7 per cent. had definite thyroid enlargement. The commonly accepted criterion of what constitutes a goiter—all visible and easily palpable enlargements—will be observed in the examinations this autumn, and a still higher percentage will undoubtedly be found. At least 400 of the 1,162 girls registered in the High School have some degree of thyroid overgrowth. A small percentage of these goiters will disappear spontaneously during the next five years. The majority will remain as permanent disfigurements capable of causing prolonged invalidism and great economic loss.

Marine,³ the pioneer in goiter prevention, solved the problem when he said, "Simple goiter is one of the easiest known diseases to prevent," and proved his statement.

Conclusive evidence that simple goiter is due to a lack of iodine was presented by Marine⁴ following his experiments on the prevention of goiter, so-called carcinoma, in brook trout. With the consent of the school-board and the local medical society he confirmed his experiments on the school-children of Akron, Ohio.⁵ An examination of approximately 10,000 school children from 1916 to 1919 revealed 56.2 per cent. goitrous. About 5,000 children received consent of parent or guardian to take 2 gms. of sodium iodide each autumn and spring in 0.2 gm. doses on ten successive days. The remaining 5,000 served as controls. Of the children taking iodine two developed goiter: one, an abnormal girl with recurrent tonsillitis, the other, a girl with congenital lues. Sixty per cent. of those having enlargements were relieved. Of the 5,000 not electing to take iodine, 27.6 per cent. developed goiter, and practically none of those having goiter were relieved. This work is still being carried on in Akron with continued success by Shira.⁶

The period of experimentation is past. It is now universally agreed that small amounts of iodine given routinely during the two periods of thyroid overgrowth, pregnancy and adolescence, will absolutely prevent goiter. The first period of thyroid enlargement, pregnancy and fetal life is easily in the control of the medical profession. By the administration of small amounts of

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iodine weekly to every pregnant woman not having an adenomatous goiter a normal thyroid in mother and child is assured. The great mass of our population, the children, do not come under the routine care of a physician, and goiter continues to develop. The best way to reach them is through the schools as a public health measure. The consensus of opinion is that 10 mgs. of iodine, preferably in the form of a pleasant tasting, chocolate iodine preparation, given weekly throughout the school year is sufficient. This should be given to the children from the 5th through the 12th grades, which include the majority of children from the ages 10 to 17. Each child receives a total of 400 mgs. of iodine a year in 40 doses, a sufficient amount to keep the thyroid saturated.

The plan,⁷ essentially that used in many localities, is this: At the beginning of the school year a card with the child's name, grade, etc., is sent to the parent or guardian for his signature requesting the iodine administration. On the same card is a dosage chart so arranged that each week as the tablet is given by the school nurse or teacher the proper blank space can easily be checked. At the bottom of the card is a space for recording the condition of the thyroid each year. A pamphlet explaining the cause of goiter, its prevalence, and the means of its prevention is sent to the parent with the card. Special emphasis is placed upon the fact that this is not a therapeutic but a preventive measure, a means of supplying the thyroid with the iodine food it demands. In no case would the iodine be given without the consent of parent or guardian.

The dangers of giving small amounts of iodine to large numbers of children are negligible. Competent observers have especially watched for untoward signs, but none have been seen. Marine,⁸ Kimball,⁸ and Klinger⁹ report no case of exophthalmic goiter nor sign of thyroid toxicity following the administration of small amounts of iodine as prescribed. An occasional instance of iodine idiosyncrasy was noted; none severe enough to warrant that the child stop treatment. Kimball¹⁰ says, "There has been some anxiety among medical men as to the possible ill-effects of giving iodine promiscuously. In all the cases taking the prescribed 2 gm. of sodium iodide there was not a single instance of exophthalmic goiter nor any evidence of nervous irritability simulating it. The sum total of ill-effects was

a mild rash in less than 0.4 per cent. The giving of small amounts of iodine over long periods of time has practically eliminated the dangers of iodide rash."

The question of iodized salt naturally arises. Why not advocate the general use of iodized salt as is being done in Michigan and eliminate all the administrative detail? The following objections have been raised: there is no control of dosage; there is no check on results; and above all, a certain percentage of adenomas are made toxic by small amounts of iodine. Iodized salt contains .02 per cent. of sodium or potassium iodide. The average person uses about 4.5 lbs. of salt a year, thus taking annually about 400 mgs. of iodine. This is equivalent to the amount obtained from the weekly administration of one 10 mg. tablet of iodine throughout the school year. However, the individual taste for salt varies so greatly that the dosage of iodine is very irregular.

Qualified opinion is divided on the advisability of advocating the generalized use of iodized salt in goiter districts. Jackson¹¹ thinks that the iodine may readily induce hyperthyroidism in patients with adenoma, and for this reason as well as the inaccuracy of the dosage has not felt justified in recommending or encouraging the use of iodized salt. Kimball¹² advocates the giving of iodine to the school children from the 5th to the 12th grades, and also the use of iodized salt in the home. Plummer¹³ says that frequently the hyperfunctioning is initiated by the administration of iodine in doses much larger than recommended for the prevention of colloidal goiter. Whether or not small doses of iodine will cause adenomas to hyperfunction that otherwise would not is not known. He doubts if this question will be settled soon.

Goiter prevention has become a problem of education. There is no more effective means of bringing information to the home than through the school-children. With the adoption of a plan as suggested above, the simple, yet largely unknown fact, that iodine will prevent goiter is carried into every home. As long as there is some uncertainty concerning the safety of giving iodine to adults with adenomatous goiters as occurs in the general use of iodized salt, I believe the plan of iodine administration in the schools is the method of choice. If later, when more data is available, iodized salt proves to be en-

tirely harmless for all, school administration of iodine can promptly be stopped, with the assurance that everybody will have learned the value of iodine as a goiter preventive and use iodized salt.

CONCLUSIONS

1. Statistics indicate that simple goiter is very prevalent in this community.

2. There is no better proven means for the absolute and entirely safe method of preventing further goiter development than through the public schools as a public health measure.

(Unanimously endorsed by the members of the Aux Plaines branch of the Chicago Medical Society.)

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THE NOTICEABLE PARALLELISM, THE APPARENT SIMILARITY AND CLOSE RESEMBLANCE BETWEEN THE TWO CHRONIC DISEASES, TUBERCULOSIS AND LEPROSY*

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CHICAGO

A few years ago there appeared in a weekly medical publication a very ably written treatise by Prof. Dr. Gotthald Herxheimer, of the Pathological Institute at Wiesbaden, Germany, pointing out the frequent parallelism between these two chronic diseases from a pathologic and bacteriologic viewpoint. Very recently a smaller contribution along similar lines was offered by Sir Leonard Rogers, late Professor of Pathology

at the Medical School of Calcutta, India, and now Lecturer in the London School of Tropical Medicine. The contribution is entitled, "The Resemblances Between Leprosy and Tuberculosis" and his observations are chiefly from a clinical standpoint. After studying these two papers very carefully and comparing them with our own observations we concluded to offer a similar paper but along still more extended lines.

If one studies these two diseases more intensively he will conclude that this parallelism is more real than apparent and that there is a resemblance not only from the clinical and pathologic standpoints but from the historical, social, economical, climatological, epidemiological, laboratory and medical aspects as well as in the treatment of both home and hospital patients.

Let us take a few moments to review briefly the interesting history of the oldest and most dreaded disease of all ages, leprosy. Knowledge of this disease seems to be coincident with the beginning history of the human race. Today we know from description of the disease handed down to us from Leviticus in biblical history that many different forms of skin eruptions, such as psoriasis, pityriasis, scabies, etc., and perhaps syphilis, were all embraced under the general term, leprosy. We observe further that in scriptural days according to mosaic law this disease was considered the most ceremonially unclean of all afflictions.

The question of the origin of leprosy is quite interesting. The orthodox view contents itself with the brief statement that it was received from the Jews by the Greeks, thence transmitted to the Arabians and ultimately brought back into Europe or the Occident by the Crusaders. This is all very possible but not probable. The first crusade began in 1096, the second Crusade lasted from 1147 to 1149, and hospitals or homes for the housing of the leprosy were in existence in Europe long before that time. The disease began to appear in Northern Europe about the sixth or seventh century and spread with appalling rapidity, reaching its full height in the thirteenth century. The lepers wandered about, outcasts from human society or habitation. They existed as living corpses in huts or open fields, going about muffled from head to foot and carrying a bell, known as the "leprosy bell," by which they gave timely warning of their approach so

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that the unafflicted individuals might get out of their way.

During the Middle Ages, in about the fourteenth century, religious orders and communities established hospitals for the deserving sick. These were usually dedicated to the Holy Spirit and became known as Hospitals of the Holy God or simply Hospitals of God. The asylums intended for the care of leprosy patients became known as Lazarettes in honor of St. Lazarus. Of this period it may be said that the charitable zeal and the religious spirit for the sick was never more pronounced and princes, bishops, and even Popes gave examples of devotion by dressing with their own hands the ulcers of the leprosy. It has been estimated that in the fifteenth century Europe established more than 20,000 leprosy houses, France alone providing more than 2,000 within its borders. That this disease was a great terror is manifested by the excessive caution taken against its spread. Its victims were forbidden to enter the cities and on the highways they were compelled to stand aside lest they should taint passersby with their breath. Even a healthy person convicted of being touched by a leper was banished from society and any infraction of these rules was punishable by death. It will thus be seen what depth of genuine humanity it required to have anything to do with these unfortunate outcasts.

Up to the end of the fifteenth century leprosy was considered the most dreaded of all diseases. The old religious data of mosaic origin, strengthened by the teachings of the wandering evangelists led the faithful to consider leprosy as both a bodily and social affliction. The belief then prevailed that God punished the sins of man by afflicting him with a disease which was far beyond the healing art of man. It was for this reason also that the leprosy infected were treated as outcasts.

During the Middle Ages European humanity was plagued with epidemic disease as never before or since. These disturbances were variously attributed to comets and other astral influences, to storms, to failure of the crops, to famine, to the sinking of mountains, to the effect of draughts or inundations, to swarms of insects, to poisoning of the wells by the Jews, and to other absurd causes. Among the Hindus where leprosy was and is still very prevalent, it was looked upon as man's inevitable punishment for having

killed a serpent or a sacred animal. The real predisposing factors, however, were the crowded conditions and bad sanitation of the walled medieval cities and towns, the squalor, misery and gross immorality occasioned by the many wars, by the fact that Europe was overrun with wandering soldiers, students and vagabond characters, and by the general superstition, ignorance and uncleanness of the masses.

Of the many epidemic diseases which had visited Europe in the Middle Ages, leprosy had well nigh disappeared by the middle of the sixteenth century. In England, France, Italy, Spain, Denmark and Switzerland leprosy was so well stamped out that the leper houses were abolished. The disease, however, still continued to be endemic through the seventeenth century in Germany, Scotland, and in the low countries, and in Sweden and Norway until the eighteenth century.

PRESENT DISTRIBUTION OF LEPROSY

It is difficult to estimate the prevalence of leprosy in the world when it must be evident that in many countries no reliable census has been taken of the normal population. The more important foci are in China and India, the former according to estimate, having from one to two million lepers and the latter from 100,000 to two million. According to Rogers, Japan, French Guinea, Middle Congo, Tanyanyika Territory, Madagascar, Philippines, Indo-China, Brazil and Colombia each have more than five thousand lepers. Rogers quotes figures, the totals approximating 190,925. Leprosy in the United States is recognized as existing in four foci, the Gulf States, Pacific Coast, Great Lakes Region, and New York State. The Gulf Coast region is recognized as being the one where leprosy is indigenous but at the present time the others represent foci constantly refed by foreign immigrants. Various estimates of the total amount of leprosy in the United States suggest the probability of there being from one to two thousand lepers within the continental limits. In Europe it is now found only at isolated points in Russia, Scandinavia, Iberia, on the coast in Italy, Greece, and on the islands of the Mediterranean and Black Seas, but it is not endemic as in former years.

1. . *The close resemblance between the tubercle and the leprosy bacillus.*—The tubercle and the lepra bacilli are, as a writer recently stated, first

cousins, perhaps still more closely related. They are both rod shaped organisms, similar in length, slow growing, single celled plants, small fungi belonging to the acid fast staining group, surrounded by a waxy body envelop, when growing do not produce spores or vacuoles and are Gram positive. Both are parasites, markedly pleomorphic, similar in their morphological and tinctorial characteristics, midway between the bacteria and streptothrices, undergoing a cycle to a higher development—a mycobacterium tuberculosis and a mycobacterium leprae.

Both are very resistant to external influences, are little affected by cold, moist or dry heat; a high temperature is fatal to both. Direct sunlight destroys the bacilli in a very short time, diffuse daylight in from one-half hour to a day. Chemicals, like carbolic acid and mercuric chloride even in weak solutions, destroy the bacilli very quickly. However, in their growth there are some distinctive differences. The chief point of difference is the enormous number of bacilli in leprous tissue, their relative harmlessness and greater resistance offered by the infiltrated organism when compared with the tubercle bacillus. Another point of difference is that the tubercle bacillus can be cultivated artificially by means of suitable media while it is doubtful if the lepra bacillus has ever been so cultivated. The attempts at growing the bacterium of leprosy in culture media have all been more or less unsuccessful. The results are rather difficult of interpretation. Unquestionably, acid resisting organisms have been cultivated from leprous lesions but so far no one has demonstrated a cultivation of an organism from leprous nodules which will fulfill satisfactorily Koch's postulate.

2. *The infecting characteristics.*—It has repeatedly been observed that the bacilli of this group infecting the human have a special predilection for various organs and tissues of the body—this for the time—to the exclusion of all other tissues and that while the human bacillus selects the larynx, the lungs, and the pleura, we find that the bovine bacillus when implanted in man usually spares these organs but favors the glands, the bones, the joints, the peritoneum, and that the leprosy bacillus probably spares all these tissues and organs and usually selects the skin, the mucous membrane, usually about the nose, the peripheral nerve sheaths, especially the ulnar, etc.

When tubercle bacilli are implanted into the young organism—the small child—in not too great number they usually find a nidus or resting place somewhere in the human body. As a general rule no noticeable disturbance results until the age of puberty when new toxipathic factors come into the life of the infected individual and arouse to activity the quiescent bacilli. These bacilli then find their natural habitat which in the case of the tubercle bacillus is in the lungs where they flourish with more or less vigor, producing the pulmonary disturbances now designated as tuberculosis. In leprosy we have an identical picture. The leprosy bacilli may have gained entrance into the human body in early infant life remaining dormant until puberty when the same causes which mobilized the tubercle bacilli now mobilize the leprosy bacilli and they find their natural habitat in the deeper layers of the skin or along the peripheral nerve sheaths, particularly the distal branches of the ulnar, where they begin the formation of colonies and gradually develop what is now designated as leprous disease.

3. *The similarity in the atria, avenues or paths of infection.*—It appears that perhaps the main and probably the only difference in the two diseases is that in tuberculosis in more than 85 per cent. of all cases the infection is by the aerogenous route through the inhalation of bacilli-laden air while in leprosy the epidermis or skin, including the mucous membrane, is probably the chief avenue of infection. The difference in the distribution of the lesions may come from the fact that lung tissue is more susceptible to the tubercle bacillus while the deep layers of the skin are more susceptible to the leprosy bacillus. Just as a perfectly intact mucous membrane will inhibit a tuberculous infection so will an undenuded skin surface inhibit the entrance of the lepra bacillus and consequently the infection. If tubercle bacilli in massive numbers find entrance into the bronchial system, are deposited in large amounts and remain for some time in the pulmonary tissue, by irritation and subsequent inflammation they may cause slight denudation of the mucosa and gaining entrance into the deeper tissue bring about infection. In a like manner if lepra bacilli are deposited upon the skin in large numbers, particularly over an area where skin and mucous surfaces come together as about the alae of the

nose, then by irritation and slow inflammation they produce a slight denudation and entry into the tissues with a resultant infection.

Next to the derma, the secretion or excretion of the leprosy person must be considered and that of the nose is of great importance. The nose is often invaded very early, especially in the nodular form and bacilli in enormously large numbers are expelled with the secretion. These patients then become the so-called open cases of leprosy, very analogous to the open cases of tuberculosis and these cases are the greatest source of danger to the community as the infection is easily spread by sneezing, coughing or blowing the nose.

4. *The parallelism between the same secondary factors producing active disease.*—Another parallelism is that after the infection has taken place the same toxipathic factors come into play to bring about active disease. These are principally overcrowded housing conditions with illy ventilated living quarters, poorly prepared and insufficient food, insufficient clothing, damp and cold sleeping rooms, and in short, poor hygienic surroundings.

In tuberculosis, toxipathic factors such as bodily and mental disturbances in the form of grief, worry, anxiety, overwork, overstudy, alcoholic and venereal excesses, play a great part in the development of the active disease following the infection. It is many times the aftermath of pneumonia, scarlet fever, trauma and shock following accidents, pregnancy, protracted lactation, and frequent miscarriages. In both tuberculosis and leprosy factors which lower body resistance hasten the development of the disease in an infected individual.

Sir Leonard Rogers in a recent publication contends that a remarkably close relationship exists between high rainfall and heat and the leprosy incidence. He has demonstrated that the influence of moist heat favored the infection with the leprosy bacillus and attributes this fact to the temporary survival of the bacillus long enough to enable it to gain entrance through the slightly denuded or abraded skin of the close contact case. He then turned to the tuberculosis situation in India and found that in areas in which tuberculosis was widely distributed there existed a close relationship between the humidity and high tuberculosis incidence. In many of these areas while there is actually little rainfall

there is uninterrupted moist wind. Have we not here a parallelism between active tuberculosis flourishing with appalling severity in people living in damp, poorly ventilated basements or tenement houses and that occurring in the portions of India subject to moist winds?

5. *The demonstrable parallelism between the disposition, tendency, heredity or diathesis.*—Another parallelism is the disposition or tendency to these diseases. Formerly both diseases were attributed almost entirely to an inherited infection and later to an hereditary predisposition to the disease. The former view is now somewhat obsolete and considered of little or no importance. The infant born of a tuberculous mother usually inherits only a constitutional weakness which is an anomaly, a lessened resistance of the body to infection, a weakness to a proper functioning of various organs and tissues of the body, hence a body weakness. We all know that heredity of an infectious disease is naturally a wrong conception, it is rather an inherited tendency. Nothing definite can be demonstrated concerning a specially inherited disposition in leprosy. In both disease there exists a special disposition or tendency in the individual. It has never been sufficiently recognized by the medical profession that in the adult the contagiousness of tuberculous disease in a strict sense is not a reality, that it is only a theoretical expression or construction and that it is at variance with and contrary to all observations. Perhaps the same may hold good in leprosy.

6. *The noticeable parallelism in the sex transmission and the childhood infection.*—It is estimated that only about 2 per cent. of individuals are tuberculously infected after marriage, say the husband from the wife or the wife from the husband. It has been established as a fact that but 1 per cent. of the consorts of married lepers have developed the disease. This would indicate that the sexual act as such has little or no bearing on the transmission of either tuberculosis or leprosy and careful investigation has shown that infection in both diseases usually does not occur genitogenetically, that is, by way of the male or female reproductive cells. Even placental transmission is very infrequent in both diseases.

If a child born to a tuberculous mother, even if the mother has only a slightly active tuberculosis, is immediately removed from the mother's

surroundings after birth and placed in an environment where tuberculous disease does not exist, it will remain free from all tuberculosis. On the other hand, if the infant is left with the tuberculous mother it will quickly develop the disease in the early months of life and succumb in early infancy. This shows that the disease is usually acquired extrauterinely after birth, and not before birth. The removal of children from leprosy parents at or soon after birth has proved very effective protection in many hundreds of cases from infection and subsequent disease. (Rogers.)

It is the belief today that a child born of a toxically tuberculous mother is not only tuberculously infected but diseased as well. The reason is that the placental barrier has become irritated and diseased from the bacilli and their toxins circulating in the blood stream and in consequence thereof is unable to withhold their entrance into the fetal organism. In the same manner the lepra bacilli may pass through the placental villi and infect the unborn child.

7. *The parallelism of tuberculosis and leprosy noticeable among the married.*—In the married tuberculosis of both husband and wife at the same time is very infrequent in spite of the close contact. In leprosy the disease is also very infrequent in both individuals in the conjugal state. Stephen Rowland believes that this lowness in the figure in the married may be due to the fact that they have passed the age of greatest susceptibility.

The close similarity to both childhood and conjugal affections in the two diseases is most striking and suggestive, the only important difference being the children became infected with the tubercle bacillus at an earlier age than with the lepra bacillus. This is due to the greater dissemination of the tubercle bacillus and its more direct entrance into the human body through the respired air or through food material. In both diseases the development is apparent about the age of puberty. An observation made by us (Dr. Denney) in the Philippine Islands showed that in 44 per cent. the infection was positive in children from the seventh to the tenth year living among the lepers.

Tuberculosis is most frequently the aftermath of a close contact infection, particularly the contact by a tuberculous adult with small children. A tuberculous adult in the household, such as a

servant, grandparent, relative or friend, may be the source of this infection. In leprosy we observe that it is a disease of the members of the household rather than of the family and the isolation of the diseased members seems to lessen the number of cases in a community. Our observations (Dr. Denney) in over 10,000 cases of leprosy at the Culion Colony of segregated lepers showed that approximately 29 per cent. gave a definite history of a previous contact with at least one adult leper relative.

8. *The parallelism in the different types of lesions.*—The nodular or tubercular type of leprosy disease characterized by the presence and formation of nodules or tubercles in the skin compares very closely with the exudative or bronchopneumonic form of tuberculosis. It is well-known that the greatest danger arises from close association with the open tuberculous patient who is discharging many bacilli in the act of coughing, sneezing, hawking and spitting. In leprosy the bacilli escape in infinitely larger number from the ulcerated skin lesions and from the nasal secretion, particularly in the nodular type, and so, in the open case of leprosy, the disease may be spread by sneezing or blowing the nose.

9. *The parallelism in the duration and the chronicity between the two diseases.*—The duration of pulmonary tuberculosis is quite variable. It may from the very beginning manifest a stormy scene, running a rapid course with death in a few months. Usually, however, it runs a more protracted course lasting for many years. Many chronic cases are known to have lasted from ten to twenty or more years, though the average duration of pulmonary tuberculosis from incipency to death is about two years. We find a very similar, perhaps more protracted condition in leprosy. Other things being equal, the duration of the disease depends largely upon the type of the disease. A little over seven years has been calculated as the average of all types, that is the period between the recognition of the first symptoms and death. There is an authentic record of one case at the Culion Leper Colony (Dr. Denney) where a woman of 63 years suffered from leprosy for more than 48 years. A leper of the purely anesthetic type, corresponding to the proliferative type of tuberculosis, has

an expectancy for longer life than has one of the group of purely nodular type, which corresponds to exudative tuberculosis.

10. *The remarkable parallelism in the mental attitude of the leprous and the tuberculous patient.*—In ancient times and up to the present we find a very close analogy existing in the minds of these sufferers setting forth in prose or poem the wretchedness and the unhappy condition of their existence. In many of our journals devoted to health, recreation and out-of-door living we find frequently a small biography of some unfortunate tuberculous person giving in graphic detail his mental anguish and physical suffering but always hopeful, always buoyant, that eventually he will be pronounced cured and be able to return to his friends and family. The mental attitude of the leprous is precisely the same. The condition of a leprous patient in the 12th century is graphically described in a small volume of poems by Hartmann Von Aue, published by Grimm Brothers, Berlin, in 1815, entitled, "Poor Henry." The hero in this publication was a Knight Templar who returned with the Crusaders from the Holy Land about 1197. In this poem he pathetically describes his efforts to free himself from the leprous scourge, going first to Montpellier and later to Salerno seeking the cure. At that period the celebrated Medical School at Salerno, then under the leadership of Constance Africanus, was generally known throughout Europe to possess a most thorough knowledge concerning leprosy and it was but natural that Poor Henry should seek this School of Medicine to have his disease cured. In this he was not successful and he died some time between the years 1210 and 1220 of leprosy. This small volume and the writings of other leprous patients since then and up to the present time finds a most perfect analog in the writings of the tuberculous patients of all times including the present.

11. *The observable parallelism between the destructive tendencies.*—Another parallelism is the great similarity in the destructive tendencies shown in the tissues in which the respective bacilli flourish. While in tuberculosis the inner organs and tissues, like the kidneys, lungs, etc., are chiefly affected, followed by ulceration, cavitation and more or less scar tissue formation,

we notice that in leprosy the external organs and tissues are usually subjected to similar destructive processes and ulceration. Destruction of the skin and subcutaneous tissue, the common trophic lesion, the perforated, punched out ulcer so pathognomonic of leprosy, are more frequently observed. This makes leprosy the more loathsome, the more dreaded and more disfiguring disease because its ravages are free to the eye of the general public, open to inspection as it were, whereas the destruction and havoc wrought by the tubercle bacillus is within the body, is not seen by the public, and is only observed at the postmortem table by the pathologist.

12. *The parallelism in the fear expressed in both ancient and modern times.*—During the Middle Ages and up to the fourteenth century when leprosy was rampant as an endemic disease in middle and western Europe and when religious, state, city, governmental, philanthropic and social communities vied with each other in the effort to alleviate the sufferings of these unfortunates, when popes and princes, kings and queens, saints and sinners either out of fear or lofty humanitarian motives tried to comfort these outcasts, when more than 20,000 hospitals, known as lazarettes, were constructed to shelter the afflicted lepers, we find that the most cruel, inhuman and strict laws were enacted for the control of their mode of living in order to safeguard the healthy or non-diseased. They were segregated outside of the city walls, ostracized from society, compelled to lead abstemious lives and to wear prescribed garments. At that time a perfect analog existed in the treatment of tuberculosis patients, with perhaps a slight modification of the treatment for the better. In Italy even as late as the fifteenth century we find that the eminent and learned physician, Fracastori of Verona, who first attributed the origin of tuberculosis to extremely minute germs thought that the breath of the tuberculous patient was highly contagious and must under all hazard be avoided. As late as 1782, just 100 years before the discovery of the tubercle bacillus, a decree was issued at Naples that tuberculosis was an infallibly contagious disease and that all the bedding, clothing, wearing apparel, and personal belongings of the deceased tuberculous person must be destroyed or burned and must not be touched by an uninfected person if he wished

to escape contagion. The same fear of the tuberculous patient is expressed in the teachings of the celebrated anatomist, Morgagni of Padua, and of Valsalva. These men would not dissect the body of a person dying with phthisis for fear of contracting the disease. The great French physician, Laennec, who died about one hundred years ago of tuberculosis, maintained to the last that his infection was brought about at the post-mortem table.

13. *The parallelism of the relatively infrequent adult infection and disease.*—Saugmann in his observations on a number of sanatoria in Central and Northern Europe extending over a period of ten or more years concludes: "that no proof is forthcoming that physicians, nurses or attendants to a tuberculosis sanatorium or those in attendance upon these unfortunates and sick have contracted the disease and such as have become tuberculously sick were undoubtedly tuberculously infected, perhaps slightly tuberculously diseased before entering upon the services at such institutions." We can here show (Dr. Denney) a like parallelism. In the ten years since the opening of the Culsion Leper Colony, Culsion, Philippine Islands, (1907-17) only two employees of the colony have developed this disease,—one of them a Caucasian ecclesiastic who was pronounced a leper five years after exposure, and a Filipino laborer who was pronounced a leper one year after having been employed in the colony. This man came from an infected family, a cousin having been a leper for several years previous to the laborer's isolation. The average number of non-leprous employees in this colony is about 200, nearly 30 of whom have been on the reservation more than ten years. Father Damien, a Belgian priest, died of leprosy at Kalawao after sixteen years of faithful devotion to the lepers under his care. The good father never took any precautions and lived continuously surrounded by his leprous parishioners. Living under unhygienic conditions, his food prepared by lepers, his clothes washed by lepers, even his pipe smoked by lepers, he took no precaution against infection. In Hawaii on the Island of Molokai the Mother Superior, during the Father Damien's time, had given her undivided time to the care of the lepers for more than thirty years without acquiring a trace of the disease. At the Leprosarium at Carville the

medical staff, the nursing force, the Sisters of Charity, carpenters, laborers, plumbers, painters, the clerical force, a Catholic priest and a Protestant clergyman, numbering 125 in all, are non-leprous individuals and although in daily intercourse with lepers none of them have contracted the disease. From these observations it must be admitted that both adult infection and disease may take place perhaps more frequently in leprosy than in tuberculosis, but can be practically avoided by the proper precautions.

14. *The tuberculids or tuberculoids. The great similarity of these skin lesions.*—Tuberculids are cutaneous eruptions which may occur on the skin of individuals believed to be infected with either the tubercle or lepra bacillus. In only a few isolated cases have bacilli of either disease been demonstrated in these lesions. Patients suffering from such skin lesions all react to the various tuberculin tests and it is believed that this cutaneous reaction is due to toxins, derived from some distant focus, either tuberculous or leprous, circulating in the blood stream. It has also been suggested that these lesions are the result of emboli of dead or weakened bacilli, weakened, if alive, in the struggle they had undergone against the defense forces of the body. This may also account for the occasional presence of bacilli in these lesions. However, more frequently are these lesions the result of a toxicity of either tuberculous or leprous origin.

The extremely close similarity between tuberculous lesions of the skin and the early lesions of dermal leprosy is of interest, both being probably due to a primary infection of the skin through inoculation of the ruptured continuity of the derma (Rogers).

15. *The parallelism in both the produced and in the applied tuberculins.*—All the bacilli of this, the acid fast group, during their growth, either naturally in the human or animal body or grown on artificial media, produce a substance which is known as tubeculin and this is more or less toxic to the infected human or animal host. All tuberculins from whatever bacillus derived contain an active substance in greater or less amount. They differ quantitatively but not qualitatively. To this rule the growth of the leprosy bacillus is probably no exception, hence any tuberculin from whatever acid fast bacillus derived will, when introduced into an affected

organism, gives a more or less positive reaction. The tuberculins derived from the human bacillus will, if artificially produced, give the largest amount of this active but as yet not isolated principle. As the lepra bacillus has not been cultivated on any artificial media, or if so only to a limited, perhaps doubtful extent, we do not know it quantitatively as to its tuberculin content. However, we do know that when Koch's tuberculin is applied intradermally to leprosy individuals a positive reaction results under identical and similar conditions as in tuberculosis, being positive in the infected and slightly leprosy diseased person and negative in the non-infected or in the toxically infected and diseased. The tuberculin reaction undoubtedly shows that a very close relationship exists between these two organisms. Recently Taylor and Malone obtained complement fixation of diagnostic importance with the sera of lepers and an antigen composed of defatted tubercle bacilli. This antigen reaction is found to be usually more pronounced in the nodular form of the disease than in the anesthetic in the more active disease, like in phthisis.

The application of tuberculin in the leper has often become a pronounced question if the reaction is really against the leprosy disease or against an accompanying tuberculosis. About 50 per cent. of all leprosy patients die from pulmonary tuberculosis and both leprosy and tubercle bacilli have been found in the lungs. The leprosy bacilli as such can frequently be identified in the lungs of lepers suffering from pulmonary tuberculosis. This has been confirmed by cultural and animal inoculations, showing that the sufferer may have the bacilli of both diseases in his lungs at the same time. At the National Leprosarium of Carville we observed that out of 56 deaths in five years with 29 autopsies, 21.4 per cent. had demonstrable active tuberculosis.

16. *The great similarity between tuberculosis and leprosy in the results of the implantation of the bacilli into primitive races, into virgin soil.*—It has long been observed as an established fact that tuberculosis usually runs a more protracted, a slower, a more benign course in communities where the disease has existed for years, perhaps for centuries. This has been particularly noticeable in Europe and in our own country where the races have become more or less

tubercularized or saturated with the product of the bacillary growth. If bacilli are implanted into new territories, into races which have never come in contact with the virus before, the transplantation is generally followed by infection and rapid disease. This first or primary infection or introduction of the tubercle bacillus into primitive races was distinctly noticeable among our American Indians and other isolated races where the introduction of tuberculosis was followed by the most dire results. We have here another parallelism with leprosy. The races in China, Indo-China and India having for many years been saturated with the leprosy virus have acquired a certain degree of immunity. In consequence the disease pursues a slow and very protracted course among these races. However, if the leprosy virus is transplanted into new soil, into new races, it runs a most virulent, a most destructive course. This was particularly noticeable in Hawaii and other oceanic islands where the introduction of leprosy became an epidemic disease of the most pronounced type.

17. *The parallelism in the present-time treatment.*—Tuberculosis as we recognize it today is chiefly a disease of the temperate zones, whereas leprosy is found more abundantly in the tropics; however, isolated cases of either are found in both zones. The attempt at the treatment of tuberculosis was early made along the line of hygiene and improved living conditions. Before Koch's epoch-making experimental work the ubiquity of tuberculosis in the human family was not known and previous to the discovery of the tubercle bacillus, some 40 years ago, tuberculosis was as dreaded a disease as leprosy is today. However, with the discovery of the tubercle bacillus a most intensive study of the cause of this disease began throughout the whole civilized world, and today, by means of education of the masses, including the physician as well as the public, better living and housing conditions and better hygiene, this abnormal fear and dread of tuberculosis is slowly passing away, lingering perhaps only in a small measure among the misinformed, the prejudiced, the ignorant, the hysterical and the extremely nervous.

As leprosy is a disease by nature very similar to tuberculosis, treatment instituted along the lines which have proved so efficient in tuberculosis has become most effective. By means of more intensive teaching and education of the masses

we may be able to overcome much of this fear, prejudice and unsympathetic indifference of the community in general and be no longer in dread of seeing a sufferer from leprous disease.

Sir Leonard Rogers states: "The cruel customs and prejudices of the Middle Ages regarding the segregation of lepers still influence the medical practice, although they are gradually giving way in view of the successes of the more humane Norwegian measures which have reduced the number of lepers thereby 95 per cent since 1856. Efforts are now being made in India and elsewhere to deal with leprosy much more on the lines of tuberculosis by providing sanatoria-like colonies with the best available treatment, in place of prison-like asylums without adequate medical attendance, and while, now that many early and uninfected cases are being attracted by the improved methods of treatment, dispensaries are being organized for attending them as out-patients on the line of tuberculosis in this and other countries, the more infective cases being sent to the colonies."

Muir has found that rest, fresh air, wholesome food are just as important factors in the treatment of leprosy as in tuberculosis and that the associated therapeutic measures of heliotherapy now studied in the Philippine Islands and elsewhere are equally as effective in tuberculosis as in leprosy.

Again quoting from Sir Rogers: "The success of the line of treatment of leprosy I introduced in 1915 by means of injection of soluble products prepared from the isolated active portion of chaulmoogra and other oils, led me to apply similar methods to the treatment of tuberculosis, their action being probably through increasing and activating blood lipase which I found to be very deficient in active leprosy and which was previously known to be in tuberculosis, leading to a dissolution of the fatty coating of the acid-fast bacilli in both diseases." We, therefore, conclude that the close resemblance between leprosy and tuberculosis as pointed out indicate possible lines of advance through the lessons learned regarding one affection affording suggestions for the application of somewhat similar prophylactic or therapeutic measures to the sister disease.

In Western India, in Vengurla, and perhaps in other places a leprosarium and a sanatorium are built on adjacent grounds, with a slight distance between the buildings, and for more than

seven years the same medical staff and nursing force has been in charge of both institutions. The same medical and general treatment is now applied in both classes of cases. Sodium morrhuate, a soluble product from cod liver oil, which has proved so effective in leprosy, is now being given hypodermically once every week to the tuberculosis patients. Observations show that sodium morrhuate given in tuberculosis possesses a selective action on the tubercle bacilli, resembling very closely the action of tuberculin; it is, however, safer to use than is tuberculin and it becomes evident that the sodium morrhuate injections exert a specific action if given in very small doses on the tuberculous lesion.

The general treatment now in use throughout the civilized world is about the same in both diseases. Improved living and housing conditions, proper sanitation and hygiene, body cleanliness, good wholesome food, fresh air with much living out in the open, much rest, early hours to retire, much sleep, little or no excitement or worry, have proved of value. A symptomatic medical treatment should be applied if manifestations of disturbance are in evidence. Tonics may be given if digestive disturbances are noticeable; anodynes and sedatives should be given in case of pain or discomfort; in other words, as in every other bodily disturbance, treat the symptoms as they arise. Treat both diseases nearly alike, lessen if possible the foci of infection, and if infected guard the human organism from becoming actively diseased. Treat the unfortunate patient in both diseases most humanely and not as outcasts because of their unfortunate condition. Treat them with kindness and a Christian charity and by your presence do not show that they possess within their bodies a dangerous or contagious malady. Both diseases are, in their incipency, amenable to treatment, and even in the actively diseased individual an arrest of the process can frequently be obtained. Both the leprous and the tuberculous should receive full sympathy from the medical profession and the encouragement of the community as a whole.

In addition to the general routine treatment clearly outlined above, we have found by experience that the crude chaulmoogra oil, if taken by mouth in large doses, that is, from 100 to 200 drops three times a day, over long periods of time, is accompanied by coincident improvement, although relapses are not infrequent. Adminis-

trations of the ethyl esters of chaulmoogra oil in our hospital over a period of more than five years have not been productive of the spectacular results obtained elsewhere. Indeed, the administration of this preparation has been somewhat discouraging.

The administration of mercurochrome and other mercurial preparations has indicated that some of the heavy metals are helpful in checking the progress of leprosy. No specific is in the hands of the staff at Carville, so that no real routine treatment can be described. The one drug which has withstood the test of time in the treatment of leprosy is Fowler's solution (liquor potassii arsenitis), this having been used for years in the control of leprosy fever and the accompanying outcropping of evanescent nodules, and leprosy neuritis.

Physiotherapy in its numerous subdivisions, such as electrotherapy, hydrotherapy, massage and heliotherapy, is being used to check the progress of deformities which are probably neurotrophic in origin and to stay the progress of neurotrophic ulcers. This new application to leprosy, namely physiotherapy, will be the subject of a detailed report to be written after a reasonable period of observation. The response to it has been in some instances spectacular and in most cases satisfactory.

SUMMARY

It is indeed surprising that a single case of leprosy in a community, even if only suspected, will cause more commotion, disturbance and actual fear and dread than a dozen cases of pulmonary tuberculosis, and yet a single case of open, active, bacilli expectorating pulmonary tuberculosis is more dangerous to a community than is an ordinary case of leprosy. This apprehension is mostly attributable to the inborn fear left with us from the scriptural representation of this disease.

In making the ward rounds with the medical superintendent of a well-organized tuberculosis sanatorium, one becomes impressed by the fact that many a tuberculous patient looks exceedingly well, has not the specific earmarks of the disease, apparently is in perfect physical health and could pass in any community as non-tuberculous, and yet the well-trained eye, the sensitive touch of the medical examiner, can point out that the suspected individual is actively and positively tuberculous. We have the

very identical similarity in leprosy. In making the daily rounds at the Leprosarium at Carville one sees many patients who apparently are in perfect health, could pass muster before any community as non-leprosy, yet one can point out some obscure lesion, perhaps a nodule of no special import, perhaps a slight nasal discharge or a slight palmer contraction, which without a doubt clinches the diagnosis for leprosy. As in tuberculosis the presence of the tubercle bacillus in the sputum is often necessary to make the diagnosis positive, so in leprosy the finding of the leprosy bacillus in the nasal secretions or in the nodule speaks for a positive diagnosis.

The duty of the community and the medical profession to the unfortunate lepers.—The community's duty toward the unfortunate tuberculous individual is to give him much encouragement; if necessary, to give him assistance while taking the cure in the effort to bring about an arrest of his tuberculous process. He must be made to feel that because of his affliction he is not an outcast, is not shunned by his fellowman, but that everyone is vitally interested in his welfare and well-being. If this applies to tuberculosis, it applies with deeper interest and greater force to the unfortunate leper. In both, the danger from contact infection has been minimized and from observations we know that there is really little difference as to contact and that in both, if care in the surroundings with the diseased individual is practiced and carelessness eliminated, the contact infection and disease are lessened or non-existent.

We have already called the attention of the medical profession to the relatively harmless relationship existing between the medical staff and the nursing force while in attendance upon the afflicted people in their charge at any of the various Sanatoria or Leprosaria throughout the civilized world.

These statements concerning leprosy should arouse a profound interest in the minds of every medical practitioner throughout our country. It becomes the imperative duty of us all to impart a better and clearer knowledge and understanding concerning leprosy to the general public, so that these unfortunates are treated more humanely, thus eliminating this inexcusable hysteria, this unsympathetic indifference, this unappeased dread, fear and horror from our community.

THROMBO-ANGIITIS OBLITERANS*

JOHN D. CLARIDGE, M.D.

CHICAGO

Thrombo-angiitis obliterans (Buerger's disease) is now universally accepted as a definite clinical and pathological entity. It is not to be confused with the ordinary obliterative endarteritis incident to the dyscrasias, arteriosclerosis or senility.

It is a slowly progressive, chronic disease of disputed etiology affecting young individuals. It is inflammatory in character, involving the arteries, veins and perivascular tissues usually of the lower extremities and evidenced pathologically by extensive occlusive thrombosis and clinically by excruciating pain, rubor and gangrene.

In consideration of this disease credit must be given Dr. Leo Buerger for his exhaustive original investigations, which are comprehensively described in his early papers and in his more recent book.¹

Etiology. Thrombo-angiitis obliterans occurs usually in men of 20 to 40 years of age and is more common in those of Semitic descent. Heredity plays no part in this disease, although more than one case has been reported in the same family. Tobacco and a hypersensitive nervous system are important etiological factors. The incidence of syphilis is no greater than in the average run of normal people. Theories as to the blood changes and increase in its viscosity have been advanced. The disease in its early stages manifests itself as an inflammatory lesion which indicates an infectious origin. Rabinowitz² reports the isolation of a specific organism from the blood stream and he has produced typical lesions experimentally in animals. This organism is a gram-negative aerobic, facultatively anaerobic, freely motile bacillus, of medium size, rod shaped and beaded, bipolar in appearance, containing metachromatic granules measuring one-half a micron in diameter and one micron in length; forms no capsule, produces no spores nor flagellæ. It stains readily with aniline dyes, though not intensely, and grows on ordinary

media, but most luxuriantly on Loeffler's. Subsequent investigation may lead to some specific form of treatment.

Pathology. The pathologic picture is essentially an inflammatory lesion with extensive red obliterating thrombi. All stages of the occlusive processes may be studied in the various vessels of an extremity or in the same vessel in different parts of its course. The thrombus becomes organized, vascularized and canalized. The changes in the walls of the blood vessels seem to be incident to the thrombi, as the occluding mass frequently terminates abruptly in apparently normal vessels. The intima is moderately thickened, but never sufficiently to cause any appreciable constriction of the lumen of the vessel. The media and the adventitia show round cell infiltration and later vascularization wherever thrombosis has occurred. The perivascular tissues also show round cell infiltration which may firmly bind together both vessels and their accompanying nerves. The periarteritis with the inflammatory changes taking place around the nerves seems to offer a plausible explanation for the excruciating pain which is present even before the thrombotic process has materially altered the circulation. Nature attempts a cure, as is evidenced by the establishment of collateral circulation and the vascularization of the thrombi.

Thomas³ reports a persistent leukocytosis in the early stages of the disease, which further points to its infectious origin. Bernhard⁴ finds the blood normal for its nitrogenous constituents, cholesterol, chlorides, calcium and carbon dioxide combining power of the blood plasma. He reports, however, a definite hyperglycemia reaction peculiar to this disease.

Roentgenology occasionally shows atheromatous changes.

The blood pressure is normal or slightly subnormal. The coagulation time is low, averaging about three minutes.

Symptoms. Characteristic for thrombo-angiitis obliterans are the following groups of symptoms: 1. The disappearance of the pulses, particularly the dorsalis pedis, posterior tibial, and popliteal, more rarely the femoral, radial and ulnar. 2. The development of typical manifesta-

*Read before the Section on Surgery of the Illinois State Medical Society, Quincy, May 20, 1925.

1. Buerger, Leo. The Circulatory Disturbances of the Extremities. 1924.

2. Rabinowitz, H. M. Experiments on the Infectious Origin of Thrombo-Angiitis Obliterans and the Isolation of a Specific organism from the Blood Stream. Surg., Gyn. & Obst., 1923, XXXVII, 353-360.

3. Thomas, H. M. Persistent Leukocytosis in the Early Stages of Thrombo-Angiitis Obliterans. Am. Jour. Med. Sci., 1923, 165, i. 86.

4. Bernhard, A. Summary of the Chemical Blood Finding in Thrombo-Angiitis Obliterans. Med. Rec., March 13, 1920, XCVII, 431.

tions of impaired circulation, to wit: Blanching of the lower extremities when these are elevated above the horizontal, hyperemia (rubor or erythromelia) or reddening of the foot in the dependent position during certain stages of the disease, and trophic disturbances, such as impaired growth of the toe nails, slightly atrophic condition of the skin, ulcers, and gangrene. 3. True vasomotor phenomena of transitory nature, such as alternating syncope, redness, coldness apparently independent of those chronic changes that occur and that are distinctly traceable to the occluded condition of the arteries and veins. 4. The symptoms of pain, either in the form of intermittent claudication (pain in the calf of the leg or in the foot on walking, with cessation when the limb is at rest) or the severe pain that is associated with the advent of trophic disturbances, especially with ulcers and patches of gangrene. 5. The slow course of the disease, symptoms of intermittent claudication or pain, preceding the development of trophic disturbances for months and years. 6. The fact that about 99 per cent. of the cases occur in Polish, Galician or Russian Hebrews, and that almost always young males between the ages of twenty and thirty are afflicted with this disease. 7. The onset of symptoms in the lower extremities, one of the legs being first affected. 8. The comparative infrequency of involvement of the upper extremities. 9. The association of a peculiar type of migrating phlebitis in the territory of the external or internal saphenous, less frequently in the larger veins of the upper extremities, characteristic in about 20 per cent. of the cases. 10. The slow but steadily progressive course, leading in a large majority of the cases to amputation of at least one limb, not infrequently of both lower extremities, and in rarer instances to amputation of one of the upper extremities as well.

Diagnosis. According to Buerger, for the clinical diagnosis of thrombo-angiitis we must depend upon: 1. The racial (Hebrew) and sex (male) predilection. 2. The early involvement of the lower extremities. 3. The early symptoms of pain or intermittent claudication. 4. The presence of migrating phlebitis. 5. The evidence of pulseless vessels. 6. The presence of blanching of the extremity in the elevated position. 7. The existence of rubor in the dependent position. 8. The relation of the hyperemic phenomena to

posture. 9. The absence of simultaneous, symmetrical involvement. 10. The slow, progressive chronic course terminating in gangrene.

Differential Diagnosis. In the differential diagnosis several conditions must be thought of. The most important of these, with their principal differential findings, are: 1. Raynaud's disease, in which the pain has a distinct nerve distribution. There is an alternate blushing and blanching which is intermittent with free intervals. The area affected does not correspond to the blood vessels and areas of anesthesia are present. Atrophic changes exist in phalanges.

2. Syphilitic ulcers. Reflex disturbances aid in the differentiation.

3. Erthromelalgia, in which the arterial pulsation is bounding and ischemia cannot be elicited.

4. Sclerodactyly. Here pain is absent.

5. Scleroderma, which usually presents sensory disturbances accompanied by edema, induration and atrophy.

6. Diabetic gangrene. The laboratory findings make this condition easily differentiated.

7. Osteomyelitis. The history of an acute onset establishes the diagnosis.

Course. The course is chronic, beginning with indefinite pains in the foot or calf which are followed by ulceration and gangrene. It may terminate fatally by a thrombosis of some of the important vessels to the brain, lung, liver, kidney, or by some intercurrent disease. Few cases recover completely and recurrences are frequent.

Most of the cases are accompanied by an extreme mental depression. This phase of the disease becomes a serious complication, as several suicides have been reported. Acute infections, moist gangrene and pyemia are occasionally associated.

Treatment. There is no prophylaxis and no specific remedy for this condition. Our only hope lies in an early recognition of this disease and an immediate institution of such treatment as will prevent the terminal gangrene.

The treatment consists in the avoidance of trauma, excessive exercise, exposure, tobacco, tight shoes, elastics and all interferences with the circulation. All types of sedatives and narcotics have been used to alleviate the pain. Posterior root section has been suggested, but the operation is too extensive to justify its use. Silbert⁵ reports complete immediate relief of

5. Silbert. Jour. A. M. A., 1922, 79, 1765.

pain following the injection of absolute alcohol into the nerve. This is not to be recommended because of subsequent paralysis and trophic disturbances.

Varied solutions have been employed to reduce the viscosity of the blood, thus improving the circulation. Steele⁶ advocates large doses of a 2 per cent. sodium citrate solution intravenously, extending over a long period of time. Troisier and Ravina⁷ used a concentrated citrate solution, administering as much as three grams intravenously at a dose. This concentrated solution seems more efficient and is less prone to give reactions. The coagulation time of the blood may be maintained at about ten minutes by the weekly injection of twenty-five to thirty-five grains. The return of the pain is associated with an increase in the coagulation time, which indicates the necessity of further medication. This should be supplemented by the oral administration of a quart of Trunczek's serum daily and ten grains of potassium iodide three times a day. The coagulation time may be maintained at about seven minutes by the daily administration of the Trunczek's serum alone. Other solutions, such as plain normal salt and Ringer's, with various modifications, have been advised. If these solutions on internal administration prove too irritative to the gastric mucosa, they may be administered subcutaneously or by a duodenal tube.

Postural exercises to induce hyperemia are very beneficial. With the patient lying in bed, elevate the leg at an angle of 60 to 90 degrees on a support for a period of one-half to three minutes. This produces a blanching or ischemia. Then drop the leg over the edge of the bed for two to five minutes. Let it lie horizontal on the bed for six to ten minutes. Repeat this cycle each alternate hour. In the intervening period intermittent compression of the main arteries for a minute, then releasing for five minutes will also help to increase the circulation.

Local heat should be applied in some form. It is a good idea to begin with a temperature not over 120° F. and increase to 180° F., but not exceeding 200° F., for one-half hour periods twice daily. Diathermy, heliotherapy and Bier's suction apparatus have been advised.

During the past year we have treated seven cases according to this technic. One patient had a bilateral amputation at the site of election. Although he had considerable pain in the stump and there was a dark blue area present which looked as though gangrene would set in, reamputation has not been necessary. One patient went to amputation because of a gangrene of the foot which was present when he entered the hospital. His pain, however, has been markedly improved. The other five patients have been saved from amputation and are quite comfortable.

In last week's issue of the *Journal A. M. A.* Phillips and Tunick⁸ reported several cases treated by high voltage x-rays with good results.

Arterio-venous anastomosis, vein ligation and peri-arterial sympathectomy have not been successful in the hands of all those who have tried them and therefore cannot be recommended.

Conservative surgery can only be employed in the early stages when amputation of one or more toes will completely eliminate the gangrene. This should be followed immediately by adequate treatment to improve the circulation. When the gangrene has become more extensive, nothing short of an amputation above the bifurcation of the femoral artery, preferably the Gritti-Stokes', will suffice.

30 N. Michigan Avenue.

DISCUSSION

DR. W. R. CUBBINS, Chicago: It has been a great pleasure to listen to this highly scientific paper which shows a very careful analysis of the symptoms and symptom-complex which characterize this disease. A few years ago the question of sympathectomy and its value in the relief of symptoms was discussed. That was based on Buerger's first contention that it was a spasm of the vessel wall and that it continued until a thrombus formed. This thrombus blocked the vessel. I have seen three operations made on individuals in whom the symptoms were of a gangrenous condition. Obviously sympathectomy is useless when the vessel is blocked. It only lends trauma to the devitalized tissue. At the present time sympathectomy is not receiving the consideration which it seemed it would receive in the early stages.

As to the complications, Dr. McArthur recommended Ringer's solution and in some individuals this will produce a rise of temperature. I had one patient who developed a temperature of 103.5 in three hours following the subcutaneous giving of Ringer's solution. His pain was so intense that it could not be controlled with morphin. He finally drifted out of

6. Steele, W. A. Intravenous Citrate of Soda Treatment of Thrombo-Angiitis Obliterans. *Jour. A. M. A.*, 76, 429.

7. Troisier and Ravina, A. Obliterative Endarteritis with Gangrene Treated by Intravenous Injections of Sodium Citrate. *Bull. de mem. Soc. Med. d. hôp de Par.*, 48, 670-682, 1924 (May 9).

8. Phillips, H. B. and I. S. Tunick: Roentgen-Ray Therapy of Thrombo-Angiitis Obliterans. *Jour. A. M. A.*, 1925, (May 16), 84, 1469.

my hands and in spite of very typical symptoms and was cured of his trouble by some unknown means.

The question at the present time as to the inflammatory origin is stimulated by the fact that there is a round cell infiltration in the wall of these vessels. The paper in which the microorganism was described as a cause produced a great amount of comment but as yet it has to be proved whether this microorganism has or has not anything to do with the production of this disease.

DR. S. C. WOLDENBURG, Chicago: I just want to add to Dr. Claridge's statement the report of two cases on the service at Michael Reese Hospital. These were cases of endarteritis obliterans which is similar to Buerger's disease. We started to treat one case after he had been going to a half dozen physicians. We gave him some Ringer's solution according to the method described by Dr. McArthur. Then we injected pure alcohol and he complained of more pain than before anything was done to him. He came to us because of the pain. What the patients want is relief of pain and if they do not get it they go to some one else.

DR. C. O. MOIZ, Murphysboro: I had under my care last year a miner, aged 33 years. In January he had had an attack of hemiplegia lasting three days and then clearing up without any treatment. In March a piece of coal had fallen on top of his head. The next day he laid off from work because of weakness in the lower limbs. The following day both limbs were gangrenous. He was brought to the hospital and died on Friday, five days after the onset. We made a Wassermann, suspecting syphilis, but was negative, probably because he was an alcoholic. He died probably from a myocarditis.

DR. J. R. HARGER, Chicago: We have all seen these cases over a long period of years and have been puzzled to know the cause. I was extremely interested in Dr. Claridge's discussion of the etiology of this condition and it seems to me that it probably offers a better explanation than any other one thing. The terminal symptoms and the fact that it eventually gives rise to gangrene in one form or another are certainly very much in favor of the infectious theory. These patients go from one place to another looking for relief of the pain. After amputation they have more pain and may have gangrene of the stump. The infectious theory it seems to me should be borne in mind by all of us. Every time one of those cases come under observation attempts should be made to say if it is an infection and if so, the type, to see if some remedy cannot be found which will give these patients relief. In the past they have been practically hopeless. If we can tide them along and make them a little more comfortable, in the meantime find the causative factor and give them the relief to which they are entitled. Probably some day we will find that focal infection, as teeth, tonsils or some of those things, are responsible. Why is it not logical to suppose that some particular organism might have a predilection for the vessel wall just the same as some organisms have a predilection for gastric ulcer or

synovial membranes? If it can be proved that the disease is due to infection, the sooner shall we secure a remedy.

DR. J. A. WOLFER, Chicago: Dr. Claridge mentioned tobacco. Some work recently appeared in the International Clinics on tobacco in its relation to angina pectoris. The writers showed that tobacco smoking has very little effect upon the normal cardiovascular system but when you have a diseased cardiovascular system it has very pronounced effect. I have made this observation in our Chemical Department in a man who had infected tonsils with some cardiac degeneration: I took his blood pressure while he was smoking a cigarette and the blood pressure would climb up fifteen to forty points, indicating marked spasm of the peripheral vessels. This was repeated a number of times.

The point I want to make is that when we have a case of thromboangiitis obliterans or a suspect case, the patient should be deprived of tobacco because of the spasm of the vessels which it produces. If a vessel contains a large thrombus but is still capable of blood flow, or in the smaller vessels which are unaffected, a spasm or constriction might lead to occlusion by thrombus and gangrene may ensue.

DR. PHILIP H. KREUSCHER, Chicago: Because of my interest in this particular work I wish to emphasize a few of the things Dr. Claridge has said.

Since Dr. Claridge's association with me we have seen a number of cases and Dr. Claridge will tell you in his closing discussion of a few of these very severe cases. The thing that I want to emphasize particularly, is that these patients are not all Jews; some are Scotch, some are Irish, big husky fellows whom you would think would never get sick. They get this condition and they go down in a very short time and the next time you see them they have one leg cut off or probably both. Our only hope, as Dr. Claridge brought out, lies in early diagnosis of this condition. You remember he told you that in the last few months we have treated seven cases. They have not come to operation and they will not if we can help them and if they will do what we tell them. The great big thing is the avoidance of trauma. The second thing is the various exercises for the improvement of the circulation. The third big thing is to decrease the viscosity of the blood from 2½ to 3 minutes coagulation time to six, eight or ten and keep it there. If you do not, the pain is so excruciating that they will go from one doctor to another seeking relief and finally to the chiropractor. This is usually our fault because we are not willing to give these patients the things they should get or to help them to a better understanding of their condition so they will know just exactly what they are dealing with. Dr. Schmitz's cancer cases do not get to the chiropractor because they know if they have cancer they are going to die. These cases are potentially malignant. Our great hope lies in finding a specific organism which can be isolated from which we can make a serum. I think Dr. Claridge emphasized

this point. If the Rubinovitch theory is right, then we have a specific organism.

DR. J. D. CLARIDGE, Chicago (closing the discussion): I am very glad Dr. Cubbins brought out the different reactions that occur following the administration of the different types of salt solution, particularly those intravenously. The reason for using concentrated citrate is that you have fewer reactions. The best description of these reactions that I can give is to cite a case. I had a patient who had been worked up from a five grain dose to a 35 grain dose. One of the men in the dispensary gave him 30 grains. He had a chill, fever, and a very excellent internist who saw him diagnosed typical pneumonia. The temperature went to 105 and returned to normal in 12 hours. With the administration of the concentrated citrate solution this is less liable to happen.

As Dr. Woldenburg brought out these patients want something done for this pain. They all want morphin. Alcohol injections produce an atrophy of the muscles of the foot.

The problem of the etiology as brought out by Dr. Harger is one in which a great deal of work can be done. We hope that this specific organism may be isolated and prove to be the cause of this disease. The problem of carrying these patients along with the citrate treatment is a big economic factor to the patient. To enable them to keep the extremities is another economic factor, even though they have to come in once or twice a year for the citrate treatment.

Tobacco as an etiologic factor, as brought out by Dr. Wolfer, is one upon which great stress has been laid. Most of these patients have been heavy tobacco users. That is the first thing to be discontinued.

Speaking again of the economic factor of continuing with the citrate administration. We have a Scotchman who three years ago had his first amputation, that of the big toe, later a removal of the first metatarsal, then a Pirogoff and then finally an amputation at the seat of election. Because he is a valuable man in his concern the company spent \$22,000 on him. He is now on the citrate treatment and is getting along very well. The interest I have had in these cases has been aroused because of the fact that these patients have been young, active, energetic individuals with big futures ahead of them and along comes this handicap of amputation of an extremity and they are in a morbid state for the rest of their lives.

POOR EDITOR

The Editor, he sits around
And wonders what to write;
He looks for news the whole day long,
Prays for it at night.
Well, let's all help the Editor
With the contribution stuff;
Let's deluge him with newsy-news
Until he cries "E-n-o-u-g-h!"

—De Molay Councilor.

THE CREDIT RATING AND COLLECTION BUREAU OF THE VERMILION COUNTY MEDICAL SOCIETY

E. G. C. WILLIAMS, M. D.

DANVILLE, ILLINOIS

During a business depression in 1913, when collections were poor and deadbeats were many, the Society agreed to publish a rating list. Dr. George Cass was appointed to do the work. Each physician sent in, or was expected to send in, a list of poor pay and no pay accounts. A few sent in the lists and Doctor Cass had to go to a lot of the men and help them go through their accounts and make up the list. The published list contained one thousand three hundred names of people who had failed or refused to pay for medical service. Those who used this rating list will testify that, although it was not complete, it was a great help in handling the people rated. Within a year or two this list became obsolete, but nothing further was done until the spring of 1924, when the publication of a new list was considered. In the discussion much was said about collections and collection agencies. Many had signed contracts with collection agencies that bound the Doctors to do everything and made no stipulation as to what the company should do. Not one case can be found where one of these commercial agencies made any real effort to collect. They usually write a letter to the debtor and then wait until the Doctor or some justice of peace has collected the account, then they claim their percentage and show by the contract that this is what they were supposed to do. Our experience is that these organizations are one hundred per cent. worth letting alone.

Local collectors and associations collected a few accounts but still fell short of what we wanted. Some of us felt that concerted action with all our accounts handled by one man would give the force of organization and lead to a general improvement in our credit work. Doctors O. H. Crist, F. M. Hartsook and E. G. C. Williams were appointed to investigate, plan and start such an organization.

As a first consideration we hunted for the right man to handle this work. It was work for a real credit and collection expert and not a job for someone who was merely looking for an easy berth. We found our man. He was an experi-

enced collector who knew every angle of the business. We convinced him that this could and would grow into a good independent business and entered into contract with him in May, 1924. On June 1 we opened an office.

Under our contract we paid him \$125.00 a month for expenses. Out of this he paid office rent, telephone, stenographer and incidentals. We paid him 25 per cent. for collections and an additional 25 per cent. where suit was necessary for collection.

To cover the \$125.00 guarantee, each physician practicing in Danville who signed for the service paid \$3.00 a month dues. Those in the country outside of Danville paid \$2.00 a month. During the first year we had only forty out of a membership of one hundred signed up with the bureau. It has taken hours of hard work to enlist the men in this work. They were skeptical and afraid it would give us unpleasant publicity.

The three dollars a month kept many out. They had been paying straight 50 per cent. for collections, but were not willing to pay this small amount in order to get collections at 25 per cent. They did not think the rating was worth much, although we gave twenty-four hour service on credit ratings. They did not want their bills turned into such an organization, as they did not want other physicians to know anything about their business. They were afraid it would fail in a few months and that that they would be out the few dollars paid in dues. They wanted some of the men to carry the expense of starting and do the work of organizing and would come in later if it was a success. In fact, alibis were numberless, but the Bureau weathered the storms of the first year. Every man who had signed for a year signed again and others began to enlist. The first rating sheet given to the members contained over two thousand five hundred names of medical deadbeats. Many of these were rated by the merchants' association as good credit risks, but there are many people who pay the butcher and clothier but who have not paid the Doctor because they have never been forced to pay him and when they owed one man all he would stand for, they could easily get another to take care of them. This has been stopped. Any physician in this community who gives service to one of these deadbeats without

having definite arrangements for pay immediately hears from the Bureau.

There is all the difference in the world between the deserving poor who need help and cannot pay and the wilful deadbeat who defies collection efforts. We cannot see where this organization has worked hardship on any of the deserving poor. All of us still do our share of charity work.

At the end of the first year we had collected over \$9,000.00, at a collection cost of 33 per cent. We had \$75,000 in accounts listed with the Bureau and in process of collection. We had about 3,500 names listed as poor pay or worthless.

In starting the second year we reduced the dues to \$2.00 per month for Danville physicians and \$1.00 per month for those outside the city.

At the end of eighteen months the Bureau is solidly established. Practically all active men in the county are members. We believe that at the end of this year it may be possible to drop all dues and make it a one hundred per cent. County Society affair.

The Bureau is now housed in three nicely furnished rooms and takes the full time of three people. The mid-year statement gives the following very interesting figures:

REPORT FROM JUNE 1, 1924 TO JANUARY 15, 1926
(RECAPITULATION ONLY)

Total accounts turned into Bureau.....	\$107,785.79	
Collections		\$14,400.55
Live Accounts—In course of collection or collectible		29,004.88
Finals—Suit, etc. (questionable).....		29,247.14
Lost accounts—Not located; no addresses given by clients, deceased, bankrupt, withdrawn by doctors, compromised, outlawed, denied, and otherwise not collectible		35,033.22
	\$107,785.79	\$107,785.79

The last item of over \$35,000 is the most interesting, as it tells a story of careless business methods, oversights, procrastinations and mistakes. A snug fortune is lost because we did not get careful and accurate information when we extended credit, because we gave credit to those who were not entitled to it and who were willing to steal our time and materials and then lie about their ability or willingness to pay.

The best features of the work done by the Bureau are the effect on the general public and upon the medical profession. The public is learning that its Doctor values his services and is going to be paid and that if they do not play square with him they will be refused services. The Doctors are learning that they have not been kind but have been foolish, that they have done

themselves and their fellow-workers definite harm. They are getting more information about people who ask for credit. When calls come from strangers, they hold them until they have time to call the Bureau for rating. This \$35,000 loss will not be repeated in the future.

We cannot give all working details in this article nor can we write them to the individual societies. The manager of the Bureau is willing to give detailed information to any accredited representative of any society that visits the Bureau. We are proud of what we have accomplished. The Credit Rating and Collection Bureau of the Vermilion County Medical Society is a complete success.

THE COUNTY HEALTH UNIT

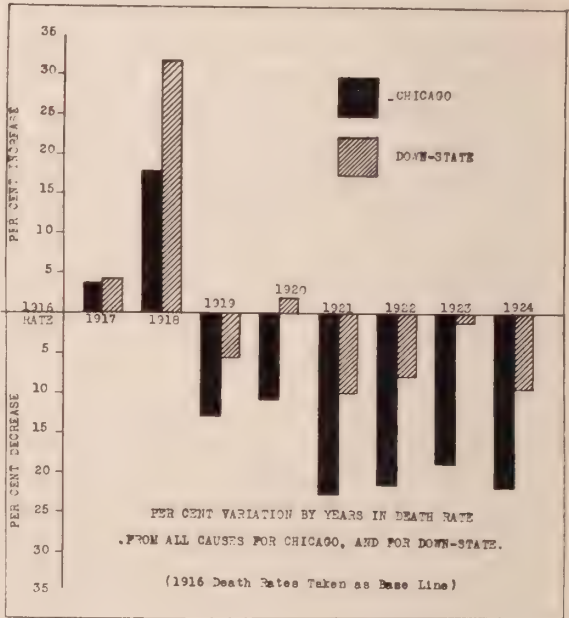
THOMAS PARRAN, JR., A. M., M. D.
SPRINGFIELD, ILLINOIS

The county is recognized as the unit for local public health work in 39 of the 48 states. Illinois is one of the nine states in the whole country in which the county is not permitted to appoint a health officer. In this State there are 2,730 separate and unrelated township, village, and city boards of health or health officers. Only in 430 of these is the health officer a physician. The remaining 2,300 are largely untrained laymen—township supervisors, village clerks, etc., who have no knowledge of medicine or public health. Of the 430 physicians, only eight donate their entire time to the duties of their office, the remainder usually are poorly paid physicians who must look to their practice for their major source of income.

The Illinois system of part-time and lay health officers is inefficient and costly. Every organization in the United States which has given serious study to the problem of rural health service has reached the conclusion that full-time county health officers, with sufficient nurses, inspectors, laboratory and other assistants to carry out a well balanced general health program, offers the only practical method for its solution. I do not see how any unbiased person, in possession of all of the facts, can reach any other conclusion.

More Adequate Local Health Service Needed. More adequate and efficient local health service is needed in Illinois. Since 1921 the general death rate in the City of Chicago has been consistently

lower than in the rest of the state. If the Chicago death rate had prevailed "down-state" during the past four years, 42,000 persons now dead would be living. The attached chart (No. 1) shows how the health progress in Chicago surpasses that in the rest of the state. The attached table (No. 1) shows that in 1923 for instance, death rates from typhoid fever, scarlet fever, measles, whooping cough, pulmonary tuberculosis, dysentery, diarrhea and enteritis, were higher down-state than in Chicago. Since January, 1923, approximately 3,000 cases of smallpox have



been reported in the state of which only 315 cases occurred in Chicago. The attached maps (No. 2 and No. 3) show vividly the need for a more adequate health service in the cities and counties of Illinois. Since the beginning of the present

TABLE 1
MORTALITY RATES IN ILLINOIS FOR THE YEAR 1923 FROM CERTAIN SPECIFIC CAUSES IN CHICAGO; AND IN THE REST OF THE STATE

	Chicago	"Down-State"
*General Death Rate (per 1,000).....	11.7	12.3
Typhoid Fever.....	1.2	6.6
Scarlet Fever.....	2.9	3.6
Measles.....	7.2	9.1
Whooping Cough.....	4.8	9.6
Diphtheria.....	12.7	11.1
Tuberculosis—Lungs.....	70.5	74.0
Influenza and Pneumonia—all Forms.....	145.5	147.5
Dysentery, Diarrhea and Enteritis....	32.1	46.6

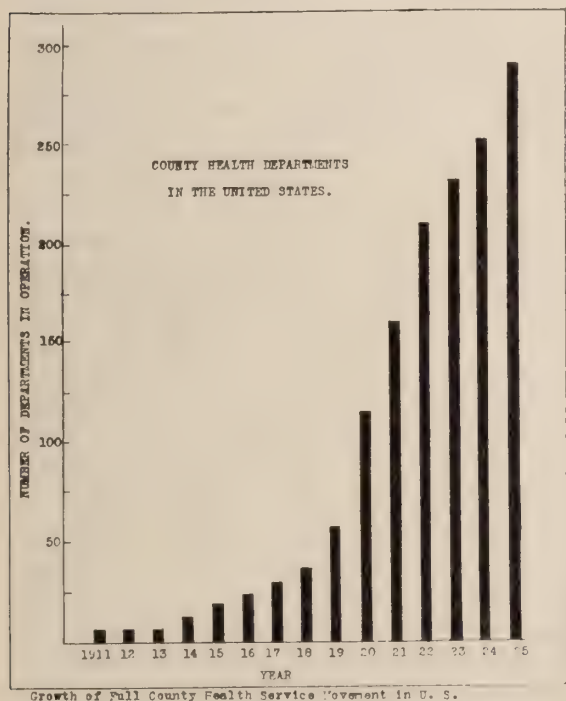
(*All other rates per 100,000 population.)

year (January 1, to May 15), more than one thousand cases of smallpox, and more than seven

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thousand cases of scarlet fever, have occurred in the state. During the month of March for instance, 28,297 persons were constantly in quarantine.

The illustrations I have used are not peculiar to this State. The great progress in preventive medicine during the last two decades has been made largely in cities rather than in rural districts. In the Registration area of the United States in 1922 the death rate for all epidemic, endemic and infectious diseases, was higher in the rural districts than in the cities (Urban 180.4, Rural 186.3). The accompanying table (No. 2)



illustrates the relatively greater health progress of the cities of the country.

How Can Local Health Service Be Provided? Granted then that more adequate and efficient county health service is needed, how can it be provided best and most economically? There are three possible methods:

1. Expand the force of the State Department of Public Health to many times its present size to provide sufficient field personnel to perform the many duties imposed by existing law and which must be performed by some agency, due to the impotence of so many local boards of health to handle their health problems. This means continued centralization of authority, and a continued lack of interest on the part of local

communities in the solution of their health problems.

2. Develop the special phases of health work, such as infant hygiene, school hygiene, visiting nurse service, tuberculosis nursing service, sanitation, control of contagion as unrelated and separate activities. Such a system obviously is not efficient in that each specialty is considered by itself and not as a part of the larger health problem of the community.

3. Encourage the organization in the county, or city of comparable size, of all health activities under the direction of a competent full-time health officer, who is appointed by the local authorities and responsible directly to the people for rendering efficient service. Under this plan duplication of effort can be prevented, and business principles applied to health service. Every special health activity can be carried out most effectively as a part of a general health program.

The whole problem of health and disease is so complex and inter-related in all its component parts that little progress can be made in any one phase without similar progress in all other health activities. The county health unit provides a method whereby all related health activities can be coordinated. The control of contagious diseases; health education; laboratory service; anti-tuberculosis measures; child hygiene, including prenatal, infant and school hygiene; the control of venereal diseases; community sanitation; pure water and milk supplies—all are included in the general problem of public health.

It is strange that although the county is recognized as the logical unit in administering other community affairs such as County Sheriff, Highway Commissioner, State's Attorney, Superintendent of Schools, Farm Adviser, Veterinarian, and Tuberculosis Sanitarium Board, the counties of Illinois are not permitted to appoint a county health officer.

A Program of Decentralization. The county plan of health work decentralizes authority to the counties. It is designed to encourage a spirit of local independence in health matters by getting communities to accept their responsibilities and thereby relieve the necessity for extension of state and federal activity in conducting what are primarily local health functions. In Illinois there has grown up a deplorable spirit of dependency on the part of many communities. Almost daily they seek aid from the State Depart-

ment of Public Health in controlling outbreaks of disease and in handling many other local health problems which they cannot cope with as township and village boards of health. This attitude of leaning on the State for service is inevitable with the present complicated system, and will increase unless adequate health service is organized on a county basis. The State Health Department should be in a position to supervise, direct and assist, and coordinate local health activities; and to perform many functions which are state rather than local in character. The primary responsibility for health service, however, is a local responsibility which all too often now is not met by local authorities in the townships, villages and small cities and which cannot be met without full-time county health officers.

Pending County Health Legislation. There

the health officer. The Senate eliminated this provision and then passed the bill without a dissenting vote. The appropriation in the original bill was not a subsidy to a county. It was a payment by the State for service rendered to the State. The laws now require the Department of Public Health to assist local health authorities in control of contagion; to supervise registration of births and deaths; to investigate insanitary conditions; to make laboratory examinations; to enforce quarantine procedures; and to perform many other health functions. County health superintendents will perform many of the above functions, which the state at great cost now is compelled to perform. The expenditure by the State of one dollar towards the support of local health organizations will secure the performance of health functions

TABLE 2

MORTALITY RATE PER 100,000 POPULATION, U. S. REGISTRATION AREA. FROM CERTAIN PREVENTABLE CAUSES—1900-1922—AND PER CENT REDUCTION IN THESE RATES, FOR CITIES AND RURAL DISTRICTS

Disease	Cities			Rural		
	1900	1922	Per cent Reduction	1900	1922	Per cent Reduction
Typhoid Fever.....	28.5	4.8	83	34.6	10	71
Malaria.....	5.4	.9	83	7.2	6	17
Measles.....	16.4	4.1	75	9.8	4.5	54
Scarlet Fever.....	11.9	3.6	70	6.8	3.4	50
Whooping Cough.....	14.4	5.5	62	9.8	5.6	43
Diphtheria.....	52.4	15.6	70	26.5	14	48
Influenza.....	24.2	23.6	3	29.6	38.3	*29
Tuberculosis (Pul.).....	204.1	83	59	138	85	38
Diarrhea and Enteritis (under 2 years).....	116	35.1	70	56.2	30	47

is now pending before the Legislature a bill to permit counties to employ a full-time medical health officer. Under the provisions of this enabling act the county itself makes the appointment; the health superintendent can be removed for just cause; two or more contiguous counties may combine, or a city and a county may combine, and agree upon the appointment of one health superintendent and the expense thereof; the health superintendent is required to carry out the State health laws and regulations; he is given no authority within those cities which maintain a well organized health department; the Department of Public Health prescribes uniform rules as to the duties of health officers; and the county board is authorized to provide assistants, such as nurses, etc., as may be needed.

As introduced, the bill provided for the payment by the State of one-half of the salary of

which under the present system costs several dollars, or are left undone.

Even in its present form the bill will pave the way for a great advance in the efficiency of county health service in Illinois.

The Council of the State Medical Society, meeting a few months ago in this city, recognized the need for more adequate and efficient local health service under the direction of full-time county health officers whose positions should be removed so far as possible from political control. The county health bill was drafted after consultation with a committee appointed by the Council. The only provision over which there was any difference of opinion was that relating to so-called "state aid." This now is eliminated and the provisions of the amended bill are in harmony with the declaration of principles by the Council of this Society.

The Physician and Public Health. The growth of the public health movement in this country has been due to the support of the medical profession and to the widespread and fundamental human desire to be well. Its future sane and orderly development depends upon the continued interest of the rank and file of the medical profession. I cannot conceive of there being any honest difference of opinion as to the necessity in every community for adequate preventive health activities. The practicing physician, the public, and the public health worker, all have a mutual interest in this matter.

The situation at present is that the public fails to avail itself all too frequently of the service of physicians. This is true in all age groups and for all diseases. The earlier diagnosis of disease and its prompt and complete treatment is the dominant note in discussing all phases of prevention. The medical profession suffers because the public indulges in self-medication, turns to the quacks for relief, and fails to consult the physician until late in the course of the illness. The public suffers likewise from this lack of more complete health and medical service. Many outbreaks of disease could be prevented; all too few pregnant women place themselves under the care of the physician throughout their pregnancy; the doctor is not consulted about the feeding of the baby until a serious illness intervenes; less than one-half of the childhood contagions are seen by physicians; fifty per cent of the school children are suffering from remedial physical defects which hamper them in their school progress and which may predispose to serious sequelae; only twenty-five per cent of those infected with a venereal disease consult a physician and a much smaller per cent of these continue treatment until cured; a large proportion of tuberculosis is not recognized until the advanced stages; the degenerative diseases are of more and more importance, and in their prevention the most effective weapon is early recognition through periodic physical examination. I could add further to this list, but the above are sufficient to illustrate the point I wish to make. I conceive an important function of a health department to be to educate the people as to the necessity for first-class medical care; to avail themselves more fully of the services of their physicians and thereby receive more completely the benefits of

modern science in preventive medicine. Physicians themselves cannot "advertise their wares," although the public is in sore need of these "wares." It is the public health officer who can best convince the public of this need.

With the counties and cities of this State organized for better health service, the medical profession and the public both would be benefited. The people look to the medical profession for advice, leadership and guidance in their community health endeavors. Without such leadership illogical or unsound efforts may be made in the name of public health, to the detriment of the whole medical profession.

The Illinois State Medical Society is accepting its responsibility in this matter and its membership is to be congratulated on the splendid program undertaken by its Lay Education Committee. The results already accomplished in educating the laity as to the need for sane community health measures are highly commendable. The State Department of Public Health welcomes the opportunity which has been presented to work with the Lay Education Committee in the solution of many problems of mutual interest. Through the work of this Committee there is presented a splendid opportunity for all interested agencies to cooperate in promoting community health. As an inevitable result of this movement every physician in the State will be benefited through the increased prestige of organized medicine, and the public generally will profit by receiving sound information concerning the facts of personal and community health.

May I not, in conclusion, commend to you in your several communities, a careful study of your community health needs and your active participation in an effort to secure an efficient and adequate local health organization under the direction of a competent full-time health officer. By such a coordination of effort between the practicing physicians, public health officials, and the public, as I have endeavored to outline, will the interests of all be served best.

DISCUSSION

DR. W. E. SCHOWENGERDT, Champaign: That little map illustrating the death rate between Chicago and down state, Chicago having a well organized Health Department, and down state practically in the hands of laymen, such as barbers, supervisors, farm-

crs—brings home the necessity of more health service. We must be better organized, we must be better equipped. Unfortunately in my home county of Champaign, where we have two medical men, perhaps three, in the different cities, we have not sufficient organization and not sufficient force behind us. The men that hold these positions get a few dollars a month and they cannot make a living. They are all good men, they want to do what they can but I believe that every city of 10,000 population should have a full term health officer. I know if we want to conduct a decent up-to-date health department, to give the people what they want and what they should have, that even one man for a population of 10,000 could not manage the thing properly. In our work it is not alone contagious diseases and the suppression of disease. You have to look after the hygienic conditions, the sanitary conditions, the schools, the water, the milk, the streets, the alleys—these are the things we have to control. These small communities have school nurses who go through the school and examine the children and give a certain amount of instruction, but they never get any further. We have a nurse to instruct the people, but one works this way and the other that way. If we have a county health officer fully paid so that we could get these necessary rules and regulations obeyed, and control the water supplies, etc., we could prevent a great many of the diseases which we now have.

DR. S. S. WINNER, Chicago: I was very much impressed by several points of Dr. Parran's paper. I have had to do with public health in Illinois for several years, and know how true these things are. The state of Illinois, with the exception of very few communities, has gotten to the point where it depends upon the State Department of Health. We know how helpless communities are when faced with a sudden emergency and their first thought is to go to the State Department for assistance. The State Department of Public Health has tried to assume an advisory and supervisory position, and to be ready at all times to offer this service. The responsibility of the health of the people of a community is in the hands of the local people. Just as each community has its own fire department and police department and other various departments, so it should have its own health department. Some communities have the viewpoint however that whenever confronted with any sort of emergency they should appeal to the State Department. How many communities appeal to the State Fire Marshall, how many police chiefs call upon the State for assistance? We must educate down to the point where they will be as self reliant in their community in health matters as they are in fire and police matters. The logical unit of health administration is the county unit. This is illustrated in the State of Illinois by a few of these units which are in operation. I am very much interested in the bill drafted by Dr. Parran now pending before the Legislature, and I am very much in favor of it. The State assumes merely its prerogatives, merely supervisory and advisory authority, the actual work is

where it should be, in the local communities. When we get to the point where local authorities will assume their responsibility, which rightly belongs to them, we will have good health administration in the State of Illinois. One other point, by the appointment of full time health officers, you will coordinate all the health activities in that county. The authority should be put in the hands of a physician who is trained along that line, and who understands the relationship of the practicing physician to the community and to the forces operating in the field.

DR. R. V. BROKAW, Springfield: I think that Doctor Parran, coming as he does to the State of Illinois from the United States Public Health Service, is making a real contribution to the advancement of the medical interests of the state. His efforts have already created a better understanding between the practicing physician and the public health official. The principles set forth in Doctor Parran's paper are so fundamentally sound, and have been so admirably presented, that they hardly need further elaboration. I should like to emphasize, however, the two basic methods of state health department organization: on the one hand, the development of a great central organization at the capital, with the state as the unit; and on the other hand, the development of the local organization, with the county as the unit. I think that the great central organization lacks the necessary intimacy of contact with the local situation. When we decentralize authority, and delegate more responsibility to the local unit, I am sure we get closer to home in the matter. The county is the logical unit for the administration of health service to small cities and rural areas. The passage of the county health department bill now before the state legislature will help solve many of the public health problems in Illinois.

DR. JOHN C. DALLENBACH, Champaign: I told the Rotary Club that Chicago had a better death rate than the cities down state. They would hardly believe I was right—that the children out in the country, with fresh air and fresh milk, did not have a better chance than the children of Chicago. I afterwards met the Mayor on the street and he said, "When that bill comes up let me know." I know many of the representatives are for this bill. The bill originally had a clause in it by which the state participates in the salary of the health officer provided it was at least \$3,000, and made it a minimum salary. If the county paid only \$2,500 they would have to pay the whole thing themselves, but if they paid \$3,000 the state paid half of it. It would only be a burden on the county of \$2,500 if they paid \$5,000 salary. I think that this should be the salary paid. I think it is going to be a good thing or going to fail, depending upon the quality of the man we get at the start. The biggest potential evil in the present bill is that it leaves the problem in the hands of county supervisors to get an efficient man. It is up to the medical profession to see that we get the right men for these positions. The only way we can do so is to work through our supervisors. That is pretty hard at times, but if the county medical societies will get back of

it, and pick a capable man and see that the county supervisors appoints that man and not some political appointee, we are going to put over what we know is in the best interest of the community.

DR. WILLIAM S. KEISTER, Decatur: Being the first full time health officer in the state of Virginia I am naturally interested in the subject. I believe that the county is the natural unit of public health work in this country. I believe the United States will be divided up and most of the counties will have whole time health officers. We have watched this work for years, advocating whole time men, and the percentage is increasing very rapidly. Before we can expect the county to finance this proposition it is necessary for the state to nurse it for a number of years. It takes good financial nursing. I have seen the mistake made in some counties where the state would put in a few thousand dollars for a few years and then withdraw state aid, and then the whole thing collapsed. I have been in counties where everything has been promised if they would give a few thousand dollars. In order to convince a board of supervisors try to do as many things as you can do well. You are almost compelled to "smother" them with results in order to have them value your work. You must have efficient men. You can kill it if you do not have really efficient men. You have to have a man with a vision much beyond what he is doing—well trained—not necessarily a man who has taken college courses in public health. Some college men I have seen are not well trained. It seems to me that some agency, such as a state board of health or possibly the national health service, should have some say in the appointment. They are competent to judge as to whether a man is capable or not, and not merely laymen, or physicians not familiar with the class of work to be done.

DR. THOMAS PARRAN, JR., Springfield (Closing): I appreciate very much the interesting discussion which this paper has precipitated. I appreciate especially the viewpoint of the practicing physician which Dr. Dallenbach has brought to us. Reference has been made to politics in health work. The desirability of having politics in health work depends upon the definition of the term "politics." It is inevitable that politics in the broader sense will play a part in every public activity. Politics play a part, for instance, in educational activities and school authorities change from time to time, but in most instances efficient service is continued in the public schools, because of the public demand for efficiency. A similar public demand must be created for efficient service by health departments. The medical profession should take the lead in creating this public sentiment for the right kind of community health service. Reference has been made to securing funds for public health work. Most counties now are expending enough money to provide themselves with an adequate health service. The problem usually is not to secure greater expenditures but to secure more efficient expenditures of funds for health service. The county health unit under a competent full-time health officer provides the

most efficient and economical method of conducting rural health work.

VENEREAL DISEASE OF THE ANUS AND RECTUM

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CHICAGO

The chief types of venereal disease observed about the anus and rectum are syphilis, gonorrhea and chancroids. Syphilis has been dealt with elsewhere.

Gonorrhea of the anus and rectum is not common, but is frequently found in all clinics where exact methods of diagnosis are carried out by routine. Many cases of proctitis are gonorrheal in origin, but when seen in the late stages the gonococcus can be found only with difficulty if at all. In all cases, however, several careful microscopical examinations should be made before concluding a diagnosis.

The symptoms of blennorrhea of the rectum so closely resemble those of acute catarrhal proctitis that it can be differentiated only by demonstrating the gonococci. At the anus the disease is frequently seen in women, but within the rectum proper it is only rarely found.

Etiology: In women gonorrhea at the anus may easily occur as a secondary inoculation from vaginal discharges. The anal sphincter seems to prevent extension of the disease within the anus, and blennorrhea of the rectum is practically always evidences of sodomy, although accidental inoculation through the use of enema tips, rectal instruments or the examining finger or glove is always to be thought of. Slight traumatism of the rectal mucosa as occurs during the passage of a constipated movement may also be factors in opening the circulation.

Symptoms: The symptoms of gonorrhea of the anus and rectum are of the same character as observed when the disease is located in the urinary tract. Itching and burning about the anus comes on in from one to five days after exposure, and rapidly grows more intense. Defecation becomes painful, and a dull sacral ache develops. Constitutional reaction (a rise of temperature and pulse) occurs at the same time. Rectal tenesmus with the passage of mucus and pus, together with streaking of the feces with blood, is usual. A discharge from the anus occurs, which at first is thin and milky white, but

later turns to greenish or brownish-yellow and is very abundant. The anus is swollen and pouting and bathed in pus, and shows many excoriations and fissures.

When the disease extends into the rectum, the mucous membrane becomes bright red, swollen and painful, and bleeds after each defecation, or upon being touched during a proctoscopic examination. The rectum is filled with muco-pus which dribbles from the anus. Condylomata, anal fissures and submucous fistulæ may complicate symptoms. Patches of mucous membrane slough off during the inflammatory stage. In the acute cases the resulting ulcers are shallow, but in chronic cases deep and extensive ulcerations may occur. Cooke¹ says stenosis may follow cicatrization, just as in the urethra, but Lynch² believes stricture is caused by a mixed infection following gonorrheal proctitis. Any body movements of the sufferer, such as walking, standing or coughing, accentuates the local pain.

Defecation is very distressing and is deferred, thereby causing constipation and later disturbed digestion. The constant pain causes insomnia, mental and physical depression and loss of weight.

The irritating discharge macerates the skin so that the sufferer cannot be comfortable in any but the recumbent position.

Diagnosis: The clinical diagnosis is usually easy and the coexistence of similar disease in the genital organs emphasizes our opinion. A confirmatory diagnosis must, however, be made by finding the gonococci in the discharge. Specimens for examination should be collected from the skin folds about the anus or from the wall of the rectum, if that organ is involved. Several specimens should be examined to be positive.

Prognosis: When the disease is limited to the anus, it is usually of short duration, if proper attention is given to personal cleanliness. If the disease extends above the internal sphincter it may persist for a long while. No cases of rectal stricture have been reported to follow this disease.

If tuberculosis or syphilis exist in an individual contracting gonorrhea, acute attacks of these diseases will likely complicate the blennorrhea and either protract the disease or render prognosis serious.

Treatment: Rest in bed for a few days is

essential in all cases. In anal gonorrhea the parts should be frequently sponged with solutions of permanganate of potash, and the buttock separated with sheets of gauze saturated with the antiseptic solution. As soon as the discharge ceases and the gonococci have disappeared, a powder of zinc oxide and calomel should be carefully insufflated between the folds of the skin and mucous membrane to keep the parts dry. If condylomata appear, they should be removed with the cautery.

Ulcerations and fissures should be carefully brushed with nitrate of silver solution.

The bowels must be kept open without inducing frequent diarrheal passages, as such evacuations are more painful than the passage of solid masses.

If gonorrhea of the genital organs coexists, these should be separately dressed, the penis bagged or the vagina tamponed to prevent fresh discharge from these parts reaching the anus. The utmost care must be exercised to prevent the accidental carrying of the infection into the rectum through the use of instruments or enema tip.

When the disease involves the rectum, this organ should be irrigated two or three times daily for twenty minutes with a hot solution of 1-4000 permanganate of potash or 1-1000 protargol. In some instances either of these occasions much pain and a saturated solution of boric acid must be substituted.

Later, when acute symptoms have subsided, these antiseptics should be discontinued and the rectum irrigated twice daily with hot saline solution for 15 or 20 minutes and, when all of the solution has drained out, one ounce of 1 to 500 silver nitrate solution is injected and the patient instructed to retain it as long as possible.

For these irrigations the patient should be placed in the lithotomy position and a rectal catheter or rectal irrigator used. A rectal enema outfit will not suffice.

The irrigations must be continued for at least a week after all evidences of the disease are absent, because gonococci will be concealed in the follicles and light up a new attack if treatment is discontinued too early.

If there is much pain and tenesmus, a suppository of opium, 1 gr., cocain, 1/4 gr., and belladonna, 1/4 gr., should be inserted each night.

Great care must be exercised in the use of

instruments not to injure the mucous membrane, because ulcerations are so easily induced and these are the beginning of abscesses.

When the discharge has ceased, any ulcers or hyperemic patches that may be left are touched with 10 per cent. silver nitrate solution.

In some instances a catarrh or gleet discharge persists, and in these cases a 2 per cent. solution of alum or tannic acid injected into the rectum every other day will prove serviceable.

If a submucous abscess or fistula develops, it must be laid open at once and treated as an ulcer, as otherwise it remains a nidus from which the gonococci reinfect the rectum.

Chancroids at the Anus: Chancroids are not infrequent about the anus, and the difference in characteristics from those found on the genital organs is easily explained by the anatomical and functional relations of their parts.

Chancroids have been variously named soft chancre, simple chancre and noninfecting sore. It is a local and not a constitutional disease, but it is very destructive of tissue and is frequently accompanied with suppurative adenitis (buboes), as are chancroids elsewhere.

The affection is much more frequently met in women than in men. The close proximity of the genital and fecal canals, the facility with which discharges from the vagina may run down upon the anus, and the accidental contact with the penis during coition, and the practice of sodomy, all explains this greater frequency in the female.

Chancroids are usually limited to the skin and exposed mucosa of the perianal region, and rarely extend above the muco-cutaneous border. Rarely a phagedenic chancroid within the rectum may cause extensive sloughing of the rectal mucosa and musculature.

Etiology: The cause of these lesions is a short, thick, slightly dumb-bell shaped streptococcus, known as the bacillus of Ducrey.⁴ These bacteria are often present in very small numbers in the original sore, and for this reason are difficult to recognize. Auto- and hetero-inoculation is very successful, but after repeated inoculations in one region a local immunity is developed, which does not affect the remainder of the body and which disappears in a few months. The several chancroids in a given area do not appear simultaneously, but successively, probably from the auto-inoculation.

The chancroid has a distinct period of incuba-

tion. The patient suffers no prodromes and often first notices the lesion only when the ulcer has fully developed.

Perianal Chancroids: Chancroids about the anus appear as erosions rather than ulcerations. They are shallow ulcers, surrounded with a small, round celled infiltrate which extends considerably beyond the borders of the ulcer. The chancroids are usually multiple and may be mistaken for simple abrasions which have become infected. The lymphatic vessels are abnormally numerous and open directly into the ulcer.

The anal folds of the skin afford an excellent lodging place for the infection. At the anus or within the anal canal they may be mistaken for fissures because of the pain they produce, but on careful exposure the chancroid base will be found, grayish-yellow, covered with pus, and the ulcers are multiple. The pain of chancroid may be quite as severe as that of the irritable ulcer.

A positive diagnosis cannot be made from any of the characteristics of the sore, but must rather be determined from all of the associated symptoms. Where but a single chancroid appears, the diagnosis is even more difficult; exceptionally a single chancroid appears as a purely superficial lesion, the nature of which is not suspected until it assumes the characteristic chancroidal appearance or until sores appear by auto-inoculation. Auto-inoculability is almost diagnostic of chancroid and chancre is sometimes extremely difficult. In other instances both lesions may be present. In chronic chancroid the secondary induration may be quite as severe as that of syphilis. If the typical organisms in the serum cannot be found or if the wound has been treated with antiseptics a differential diagnosis may be impossible. In some cases the lymphatic enlargement may be chronic instead of suppurative and further confuse the observer.

Herpes and mechanical abrasions may be mistaken for chancroid when they first appear, but they heal with a few days' cleansing treatment thus showing that chancroidal infection is absent.

Tuberculous ulcers are rare. They cannot be distinguished from chancroids by their physical appearance alone, but their history extending over months, the finding of tuberculosis elsewhere, and the inoculation of guinea pigs will disclose the true nature of the lesion.

Treatment: Chancroids progress slowly and heal equally slowly, with practically no tendency

to spontaneous healing. Conservative treatment is always enjoined. If the chancroids are seen early and are carefully treated, suppurating buboes are the exception rather than the rule.

Since chancroid is due to inoculation with the discharge of a similar lesion, as prophylactic measures the perianal skin should be thoroughly washed with soap and water and then smeared with 33 per cent. calomel ointment. This should be done twice daily. Chancroids already present are to be treated to convert an unhealthy spreading ulcer into a healing, granulating surface. Antiseptics used should either be so mild that they produce only very little irritation, or so powerful that they completely destroy the entire diseased area (i. e., cauterants). Under the application of cauterants a cure may result in one to two weeks, whereas under mild antiseptics three to six weeks is the rule. Many factors, however, determine our course of treatment.

In preparation for treatment the whole buttock, including the ulcer and its environs, is thoroughly washed with soap and hot water. The chancroid and the skin near it is then carefully sprayed with hydrogen peroxide full strength and following this a spray of 1-4000 permanganate of potash. If now we decide to follow with non-irritating dressings the ulcer is powdered with calomel or iodoform, being careful to directly cover every portion of the ulcer. The dusting powder must not prevent the escape of the discharges, which, if retained, will produce crusts and scabs.

This treatment must be repeated two to four times each day, according to the amount of discharge, and is therefore limited to those cases only which are not inflammatory and which do not discharge profusely.

Wet dressing may be used instead of the dusting powders after thorough cleansing of the lesions and surrounding parts.

Cauterization: Immediate and complete destruction of the chancroids, provided they are not numerous, is the safest routine treatment. By so doing, the virus is immediately destroyed and a healthy granulation results which soon cicatrizes and which, if kept clean while healing, will rarely develop complications. The best instrument for this purpose is the galvano-cautery. In performing the operation, the chancroid and the surrounding healthy area are first thoroughly

cleansed and are then anesthetized by hypodermic infiltration, with one-half per cent. solution of procaine carried around the ulcer and under its base. The cautery at white heat is then carefully applied to every part of the chancroid, base and borders. If sinuses are present, they are slit up and their walls cauterized. If this is well done, no portion of the ulcer is left to reinfect the wound. The whole surface is now carefully washed with 1-4000 permanganate solution, and wet dressings of alcohol and lead water, equal parts, are applied to soothe the pain and combat the inflammatory swelling which occurs. Cauterization is indicated when the chancroids are seen in their early stages and when gangrenous phagedenic changes occur.

Chancroids within the Rectum: A few cases have been reported of chancroid within the rectum. Such an ulcer is usually due to sodomy. Those chancroids of the rectum which have been reported have generally been associated with others at the anus and upon the buttocks.

Symptoms: The symptoms caused by chancroids within the rectum are those of the ulceration, i. e., diarrhea, rectal tenesmus, and discharge of mucus and pus, sometimes tinged with blood. There may be severe rectal pain or only a sacral ache.

The ulcers as seen through the proctoscope are grayish yellow, shallow and have irregular outlines. Occasionally they are phagedenic in character and invade the deeper coats of the bowel and may even destroy the sphincter muscle. During this phagedenic course, collection of pus occurs in the deep coats of the bowel, from which fistulae result.

Treatment: The management of chancroids within the rectum is practically the same as that of simple ulceration of this organ. The patient should be confined to bed, the bowels kept regular but not diarrheal and the rectum should be irrigated two or three times daily. An iodoform suppository should be introduced twice daily. A bland, unstimulating diet should be directed and morphin given as necessary for the relief of pain or the control of diarrhea.

Phagedenic Chancroid—Phagedena Gangrene: A chancroid may be usually inflammatory in type from the first, or may at any time assume a phagedenic character, as a result of constitutional dyscrasia (a general cachexia), local irritation, or disturbances of the circulation.

Two different types of gangrenous change are recognized, the acute and the chronic. The acute form resembles an intense cellulitis. The deep tissues are involved as well as the superficial, the ulcer and the surrounding structures are swollen, edematous and painful. Constitutional reaction (fever, rapid and feeble pulse, and dry, pasty tongue) is marked. Great destruction of tissue results. Areas become dark red, brown and finally black and putrid. Abscesses develop and the overlying tissues slough away. The neighboring lymphatics soon are involved and suppurate. The whole clinical picture is one of pyemia. Metastatic abscesses may occur anywhere in the body and may cause a fatal termination. Favorable cases extend through a prolonged convalescence with dense cicatrization resulting from the sloughs.

The chronic form of phagedena is very insidious in its onset. The destructive process is much slower, ultimately producing lesions quite as extensive, but rather by molecular death. The ulcer, always grayish in appearance, shows a lack of granulation on one of its borders. While cicatrization occurs in one place, extension of the ulcer occurs in another.

The ulcer steadily extends in spite of treatment until it attains enormous dimensions. The extension of the ulcer is usually superficial, but in some instances may involve the deeper tissues with its cellular infiltration. Cicatrices resulting from these sloughs may cause rectal strictures, as recorded by Van Buren.³ There are, however, no constitutional symptoms and the chancroid may last for months or years.

Treatment of Phagedena: When gangrene occurs, the patient must be put to bed and hot antiseptic fomentation as hot as can be borne continuously applied. The pads are changed every half hour and in the interval are kept hot with the electric lamp, or other means. If the gangrene continues, all devitalized tissues should be cut away and the chancroid cauterized and then kept dressed with compresses kept wet with lead water and alcohol.

In all phagedenic cases systemic tonics and stimulants are indicated. Potassio-ferric tartrate has been particularly recommended (White & Martin, p. 28).

The chronic form of phagedenia is invariably associated with some constitutional disease, such

as nephritis, diabetes, syphilis or tuberculosis, and treatment directed to this underlying cause will usually cure the chancroid. To this end cod liver oil, the hypophosphates, and arsenic, render valuable service. These patients always have impaired digestion, with little desire for food, and the administration of cod liver oil is likely to be nauseous. I have had best success with giving one ounce just before retiring. This is given in a soup spoon, on the tip of which is a lump of brown sugar. Given this way, all gastric disturbance passes off while the patient sleeps.

Autogenous bacterins are also sometimes of great value. Coal tar antiseptics are to be used cautiously, as they are all depressants, and the patient suffering with pyemia is sure to need supportive treatment.

Complications: Chancroidal infection may be associated with spirochæta in the true chancere. Such lesions appear at first as chancroids, but after two or three weeks undergo the induration of syphilitic lesions. About this time the skin eruption, sore throat and alopecia of syphilis appear.

The later syphilitic lesions, mucous patches or ulcers may be infected with chancroidal virus and be very confusing to the diagnostician.

Abscessing pockets should be evacuated as soon as recognized, being careful that the incisions are not so wide as to open up healthy tissues and thus extend the infection.

Following the release of the pus, the cavities should be gently and frequently irrigated and hot moist antiseptic dressing kept constantly applied, thus stimulating the circulation and limiting the sloughing.

Lymphadenitis—Bubo: This is the commonest complication of chancroid, although lymphangitis (inflammation of the lymphatic vessels) is a rare complication. When treatment of the chancroid is begun early, the development of buboes is comparatively rare.

The glands involved are generally those to which the lymph-vessels supplying the seat of ulceration pass most directly. The direct cause of bubo is not clearly formulated.

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LUMINAL POISONING WITH CONJUNCTIVAL RESIDUE

EDW. S. HAMILTON, M.D.

C. W. GEIGER, M.D.

J. H. ROTH, M.D.

KANKAKEE, ILLINOIS

Luminal is chemically phenol-ethyl-barbituric acid, closely related to the veronal group and used in cases that usually require veronal treatment. It is supposed to be more efficacious in cerebral irritation and insomnia than the formerly used drugs. It is manufactured by Bayer and is recommended by their detail men as almost a specific in epilepsy. The maximum dose is 0.8 gm. or 12 grains.

Every physician who prescribes luminal is aware that there is a possibility of an intoxication on account of the close chemical relationship to the veronal group. While there is considerable information obtainable concerning the beneficial results from the drug, there is very little to guide the physician as to the untoward effects or the idiosyncrasies that may arise in certain individuals. The literature is so woefully lacking in case reports of luminal accidents that we consider this of enough importance to warrant a clinical review. We are led to believe from this that luminal is a much safer drug to use than veronal. However, on reviewing the literature we find four reports of luminal poisoning with one death. The symptoms already described are diversified, yet we have been able to observe most of them in our case.

In two cases of epilepsy, reported by Haug,¹ luminal was given three times daily in 0.1 gm. doses. In the first case there appeared after four weeks of treatment high temperature, diarrhea with bloody mucous stools and a scarlet exanthema. The patient was very ill and showed a slight stupor. Removal of the drug was followed by disappearance of the symptoms within two days. There was no scaling following the rash. After ten days, treatment was resumed with no ill effects.

The second patient after eleven days of treatment developed high temperature, mucous diarrhea but no blood, albuminuria, scarlet exanthema and marked changes in the sensations. Removal of the drug relieved these symptoms in a few days.

The first patient received a total of 8.48 gms.,

while the second only 3.3 gms. Haug believes that the epilepsy caused a weakened condition, resulting in an over-action of the drug.

Farnell² treated a young woman, aged 24, for insomnia, prescribing 0.3 gms. luminal, with instructions not to repeat within 48 hours. However, the drug was taken the following night. She had to be called in the morning and displayed these symptoms: dreaminess and sleepiness, head felt very light, speech slurring and scanning, paraphasia, inability to stand without support, pupils dilated, reflexes diminished, but no circulatory disturbances. Upon removal of the drug the symptoms subsided within twenty-four hours.

A second case was that of a man, aged 35, who was treated for insomnia. He was given 0.6 gm. of luminal and one hour later 0.3 gms. Three hours later 0.2 gm. of veronal was administered. Upon being aroused the next day he showed symptoms similar to the first case and in addition there was a tendency to drop-foot. There were gastrointestinal symptoms; patellar reflexes absent; pupils dilated but no sensory disturbances. Condition returned to normal in 48 hours. In this case the maximum dose was exceeded.

Stein³ reported a case of a man, aged 40, well nourished, with a history of renal colic occurring about every two months. At noon he complained of oppression in the chest. His wife gave him a 0.3 gm. tablet of luminal. She had taken luminal on two previous occasions for insomnia. He then ate his noon meal and after an hour walked to his shop. Here he noticed dizziness, diplopia and dimness of vision. About three o'clock he vomited. Becoming alarmed, he called medical assistance. When Stein saw him he was pale and ghastly, pulse full and regular and pressure not increased. Pupils were dilated and reacted slowly. He complained of uneasiness and fatigue. The speech was lisping but the sensations were normal and the patellar reflexes not decreased. There was no albumin in the urine. On supportive treatment the symptoms cleared in 24 hours. Stein differentiates food poisoning, cerebral emboli and hemorrhage.

A case of luminal intoxication reported by Heuber,⁴ was that of a man, aged 40, suffering from epilepsy from childhood. He was given luminal in 0.5 gm. dose for one month or a total of thirty tablets. A maculopapular rash was the

first symptom to appear. Four days later an anuria developed lasting twenty-four hours. Later the first specimen of the urine voided showed no casts or albumin. The patient complained of sleepiness and there was a slight stupor. The lips were swollen and the eyelids edematous. The rash progressed, the spots becoming larger and in parts confluent. On the right foot and leg the spots became hemorrhagic. The rash took the form later of chronic infiltrating eczema. There was edema of the right foot and leg. Thirteen days later temperature appeared with cough and expectoration. Examination showed signs of inflammation of both lungs with a dissemination of a previous tuberculous condition. Death followed in 24 hours. The physician believes that if luminal was not directly responsible for the death that it caused a flaring up of the old tuberculous condition.

Report of case. This patient, a female, aged 36, was first seen by Dr. Edwin S. Hamilton on Nov. 10, 1924. The past history revealed one pregnancy in 1911, which terminated at the third month from unknown cause, since which time she has had "female trouble." Since 1917 she has had attacks of unconsciousness of undetermined origin which have the following characteristics, always at night; no aura; of one or two hours' duration; involuntaries frequent and are followed by severe headaches lasting 24 hours. She has been treated by a large number of doctors, both regular and otherwise, without results. A Wassermann taken in 1920 was negative.

On October 21, 1924, she went to a new doctor who gave her two kinds of medicine for her "spells." One of these was later found to be luminal which was being taken $1\frac{1}{2}$ grains four times daily. On November 6 she noticed a peculiar rash on her face and body and felt sick all over. She returned to her doctor who told her that she had the grippe and gave her some large white tablets—later found to be aspirin—and some "cold" tablets. However, she became gradually worse with general malaise, sore mouth and redness over the entire body, so she returned to the doctor on November 9. He did very little for her and on the day following she came under our observation. Her complaint at that time was an eruption over the whole body which itched intensely; sore mouth; swollen face; purulent discharge from the eyes; and a general feeling of being sick. Her appearance at that time was so abnormal that she was not recognized by people who had known her for years.

Upon examination it was found that she had a temperature of 100 and a pulse of 102. Her entire body, including the face and extremities, was covered with a slightly raised erythematous rash, dark red in color, and itching intensely. The eyes showed marked conjunctivitis, with the lashes and lid margins agglutinated. The mucous membrane lining the inner surface

of the cheeks and covering the entire tongue as well as the palate and the pharynx was studded with little blisters, some of which had ruptured, leaving shreds of mucous membrane in the mouth. Leucocyte count was 8,600. Urine showed a specific gravity of 1018; no albumin or sugar. Diagnosis at that time was a dermatitis either from medicine or food. All medication was stopped and she was sent home to bed and the following treatment instituted: Potassium chlorate mouth wash; argyrol 10 per cent for the eyes; calamine lotion to the skin and citro-carbonate one dram every two hours.

The following day vesicles made their appearance over the entire body. They varied in size from one to ten centimeters in diameter, were irregular in shape and filled with clear serous fluid. At that time the diagnosis of exfoliative dermatitis was made and consultation advised. This was held the following day with the original doctor on the case and he explained that he had been giving luminal but insisted that the condition was due to food and not the drug. Concurrence was not held with this opinion.

The course of the disease was stormy and long. The condition of the skin with the extreme itching, the raw mouth and later the nasal condition made the patient not only very uncomfortable but both eating and breathing a very painful process. The entire integument was shed, including the finger and toe nails, as well as part of the hair. She was left with a pigmented skin. The eyes showed marked conjunctivitis for two weeks. The mucous membrane of the entire mouth and pharynx sloughed off in shreds and there were times that she could scarcely swallow. The same condition was present in the nose and of course interfered with breathing. The bowels were open at times while at other times there was marked constipation. Occasionally there would be mucus casts passed in the stools. The temperature varied from 100 to 102 and the pulse stayed below 100 most of the time except when she became very "nervous." The heart and lungs were excellent at all times and in spite of the severe nature of the disease at no time was there any albumin found in the urine and the amount voided was about 2,000 c. c. daily. About December 1st she sat up for the first time, this was about three weeks after the onset of the trouble and about a month after she started taking luminal. On December 7 she was able to be up and around the house.

She was examined again on April 2, 1925. At that time she complained that her skin was still mottled in appearance with splotches of tan between the normal white. She said that with the exception of her eye condition there were no subjective symptoms. The ankles were slightly swollen and edematous. The urine showed a specific gravity of 1018 with no albumin or sugar. Microscopic examination of the sediment showed a few epithelial cells with an occasional pus cell. She was referred to Dr. Roth for her eye condition.

She was seen by Drs. Geiger and Roth, May 13, 1925. Her chief complaint at that time was slight photophobia, smarting and blurring which was not constant

and which could be relieved by irrigation of the conjunctival sac. She said that her lashes were usually agglutinated in the mornings. Examination showed the skin about the orbit normal. While there was no displacement of the lashes there was a slight scaly condition of the lid margin. The caruncles appeared slightly thickened as is often observed in chronic conjunctivitis. The lower and upper fornix showed several adhesions between the palpebral and ocular conjunctiva. Dense scars were found in the palpebral conjunctiva of both upper and lower lids of both eyes. The scars were not the irregular criss cross variety that is common to trachoma nor the irregular type that has been observed following some of the war gas conjunctivitis and chemical burns. The scars were of irregular geographical type and were not similar in the two eyes. Smears and cultures of the conjunctiva were negative. The corneae were clear and the media and fundi not affected. The refraction showed:

R—15/40 Minus 0.50 plus 1.00 axis 90 15/15.

L—15/30 Minus 0.50 plus 1.00 axis 90 15/15.

Zinc-boric was prescribed as an astringent treatment but with no effect. May 23 calomel ointment was massaged into the conjunctiva with soothing results. Theosinamine ointment was given her for routine home use. The nose, epipharynx, pharynx and larynx showed no residue. The patient is still under observation.

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AS OTHERS (SEEM TO) SEE US

H. N. JENNETT, M. D.

KANSAS CITY, MO.

We have been quite well amused lately, in reading the general literature, by the wild propaganda that is being printed about medical things. It seems that most any one in this day and age is competent and has the call to write or sit in judgment on or about or around medical things.

One such article seems to especially merit our attention as an example. It is an article in the Journal of the American Association for Medico-Physical Research, and it is signed, "S. E. B." (Sure Enough Bunk.) It reads like another good doctor had gone wrong.

Let us quote some of its subtle passages of evisceration for your hilarious edification, and

also that we may perchance make parenthetically some wise cracks also:

DOCTORS AND PANACEAS

"All the world hunts for the miracle. Each human hopes to rub an Aladdin lamp."

(Or to sell you something just as good!)

"Every patient seeks a panacea to cure him easily and quickly of his ills."

(—If any. No, regular doctors have no panaceas! Don't you think rather that every quack seeks a patient to sell him a panacea?)

"The physician in the good old days of the 'family doctor'—"

(Just a moment! Pardon me!— Let's correct this slight common popular erroneous and foolish idea yet abroad. The "family doctor" did not leave with the "good old days"; he is still here, always will be here,—other spurious prophets to the c. n. w.-s.)

—"taught his trusting patient that wonderful healing powers were stored in every one of his pills,"

(—In the bread pills too?—you forgot those, didn't you? I think what he really taught was that taking the pills and following his advice, being content to be "sick" for a few days, really helped nature to get you well, or to have a chance to get you well. Really the old doctor—if you ever happened to know one—was and is a very modest man.—Oh, that's all right, don't mention it; it's a very common error.)

—"and with his faith untouched by modern insidious doubt,"—

(I looked up that "insidious doubt" thing and it means christian science propaganda and the chiropractic thrust on the cash register, and things like that.)

—"the patient listened to his (the doctor's) advice and he performed miracles with his pills and potions."

(Yes, that's it; and with his love for his fellow man, and with watching all night by the bedside while death looked in at the window.)

"Cures, even miracles, were then, and are now, performed by medicine. But if the doctor promises a cure"—

(Just a moment! Another little error! Let's get it straight. No regular, ethical doctor *promises* a cure of anything. The cults and the quacks promise the cures. Medicine is an art.

For the moment you probably forgot that. Oh, don't mention it!)

—"if the doctor promises a cure directly or indirectly and it proves to be only a palliative or a false promise, what then?"

(Why, that is simple; the cult just tells the patient that he will have to have more faith and help the thing along—it will cure him if he will let it; it is his fault; no fault with the system; he must have more credulity

and cash.)

"Will the patient or the public retain confidence in the noble art of medicine so patiently and consistently moulded by that ancient institution, 'the family doctor'?"

(You tell the world! They will!—as fast as spurious commercial propaganda becomes known or is tracked to its lair, or you might say, liar.)

"No, the present day doctor is even now reaping the whirlwind of misplaced confidence in his ability"—

(Well, I understand that in some quarters the cult "doctor" is having a heluva time of it. But the present day family doctor has learned something from the cult, and that is to recognize a whirlwind of misplaced credit in which the old doctor had too much confidence, whereas the quack gets the cash at the beginning so that it will not interfere with the treatment.

But the said misplaced confidence of the public was or is not in the good old doctor's ability to treat the sick, it is in his being too honest to *promise* cures, whereas the public today expect the miraculous; they want a cure guaranteed. Hence the popularity of the cults.)

"He (the doctor) rebels against the insidious propaganda of the quack, the cultist, the nature curist, and the whatnot."

(I do not know of any "rebellng" the family doctor is doing; but I do know he is very busy taking every advantage of any spare hours to keep up with the times and the newer things and the more scientific ways of medicine; he is buying equipment, pricing cash registers,—imagine that! and believe me, by the lord harry, he is going to use them or "something just as good.")

"He says, 'I am about the business of humanity. My citadel is fortified by prestige and service. My stronghold, at least will be spared. It cannot be stormed and taken.'"

(Oh, he has not worried over it a minute, for he feels that the 'stormed and taken' thing is a

sort of christian science 'storming' and 'taking'—but only of the cash customiers! Don't forget that.)

"But the generals of the opposition look at his fancied security and laugh at his insolence and simple faith."

(Pardon me, you mean the cults laugh with insolence and simple faith while snapping their suspenders, don't you?)

"The ramparts are old and worn, but the foundation is strong and glorious."

(And the shacks that the cults are building on said foundation have the cubists sitting up nights to sketch.)

"Conservative council and satisfied leadership have hindered rebuilding. They have failed to dig beneath the moss of decay for vulnerability."

(So that's it, is it? Whatever it is! Well, I knew I smelled "moss of decay." Words, words; if words would only build the whazit, the Tower of Babel would seem as a medical Leaning Tower of Pisa, or something.)

"The surgeon has cluttered surgery with ovaries, appendices, tonsils, and cancers, removed under the plea that the knife was the panacea. But too often the six weeks' waiting of the patients for the promised cure"—

(Again, be it said firmly that there is no *promised* cure among reputable doctors; and further, the usual time for health restored after major operations is quite a year. Other than that, the statement seems all right!)

—"trails along into months and years of misery, worse than before. . . . They asked for bread and were given a 'stone.'"

(Well, must have been a Lydston operation! Anyway, those patients "trail along" until the great scientific interest of the cults engulfs them, if any!)

"The referred patient trustingly seeks advice for bodily ailments."

(Oh, and for mental ailments, and for imaginary ailments, and for social ailments, and marital ailments, 'n' ev'rything. You never thought of that, did you? Of course. You're welcome.)

"He is told diagnosis is the thing."

(Regular doctors do make the mistake of trying to find out first what they are going to treat the patient for. While with the cults a diagnosis seems to interfere with the treatment. That's the reason why the Medical Tower of

Babel turns out to be a Leaning Tower of Pisa.)

"He drags wearily to the X-ray room, heart, stomach, or other specialists."

(MY observation has been that the "drag" commences after the patient has been to the cults, the christian science-ist, and—about to die—drags back to the family physician for the last pill and supplement, to be treated free for the rest of his life!)

"His anatomy is canvassed thoroughly yea, written in direful books."

(I shall burn my direful book, instant! for I am certain that the devil has his number by now, and has the chapel all dusted and ready. Poor soul, he deserves better treatment!)

"The diagnosis is made. What of the cure?"

(Why, he cannot be cured now; the cults have had him during his years of possible cure!)

"He asked for a panacea."

(I never heard him! and besides I don't think he knows what a panacea is or was; for anyone who will quit a regular honest-to-God family doctor and give up good money to a quack doesn't know that much.)

"He is too often given a diagnosis."

(That is the cleverest thing you have said. The family physician has given away far too many diagnoses. But do not worry about it. These are changing times—"in the twinkling of an eye"—if you know what I mean!)

"There is disappointment and despair. He therefore seeks the cult, the nature curist and the quack. Here at least hope is offered."

(—And, something he never had before—the cosmic urge to pay cash! Ain't it awful?)

"The method is plain. Here is no knife and no gore; no mysterious machinery or threatened death from an overdose."

(Only death from neglect, and cancer, and mistreatment, and postponement. The method is pain.)

"Thus another disastrous shot is fired into the precious facade of faith in that ancient medical stronghold."

(Wasn't it selfishness or something that caused the shots to be fired during the late war that destroyed the precious cathedral of Rheims?)

"Medical leaders are blind or they would change the strategy."

(You mean, they should change the combination on the safe, don't you?)

"Medicine is an art, not a science as yet."

(But do not worry about that, it is deep stuff.)

"A world estranged by disappointment will not believe when the real panacea is found."

(No, not half the world believed that Mrs. Eddy had found it and were willing to give her \$300, for twelve lessons or doses. *Today*, a fellow came into my office with one—a substitute for food or milk or something, and no doubt, I let another good thing go!)

"Medical strategy for the future will offer prevention rather than panaceas and cures."

(The strategy of the propagandist will in the future offer as today any substitute commodity for medical needs that has a cash surrender value. May the gods and the legislatures give us euthanasia.)

(Or emesis.)

EPHEDRIN

GEORGE F. FISKE, M. D.

CHICAGO

Most of you have seen Dr. George Fetterolf's report upon Ephedrin Sulphate in the August number of the Archives of Oto-Laryngology. Dr. Fetterolf was so kind as to help me to obtain a small supply of both the chloride and the sulphate, and this is a short report of its effects upon the nasal mucous membrane.

It was used upon twelve individuals, including myself. The solutions were two per cent., one per cent., and one part to five hundred. The most satisfactory and least irritating method of application seems to be a cotton pledget rolled and saturated with the solution and then introduced into the lower meatus and left for two or three minutes in contact with the mucosa. With the one and two per cent. solutions the shrinkage began immediately and was very complete within two to four minutes. The contraction remained complete for from one-half to two hours, the relaxation coming on more quickly in cases of acute rhinitis. The solution one part to five hundred caused a marked shrinkage, but not complete enough for operative purposes. In several cases the two per cent. solution was used in connection with a four per cent. solution of cocaine, both separately and with a mixture—half and half—of the two solutions, producing the effect of both. No irritation was observed and no after effects—either

good or bad. The action as regards shrinkage of the mucosa was very like the one to one thousand solution of epinephrin chloride, except the paleness produced was less marked.

The aqueous solution seems to resemble the sulphate of atropia solution in its stability, which is of marked advantage. Its field of usefulness would seem to me to lie in intranasal operating. The alkaloid itself I have not obtained as yet, though I hope to. Both the chloride and the sulphate crystals are easily soluble in water. The price quoted me from Philadelphia was \$1.50 per gramme. The supply at present is limited, which is certainly understandable, if the plant *Ephedra vulgaris* must be bought from China.

I had hoped to have a larger supply in order to give it to all members of this Society who are interested, but though I have ordered some from Dr. Read in Peking, and also from France, it has not yet arrived. When it does, I shall be glad to divide with you. It will then be tested with novocain for local anesthesia. While the expense at present is very great, there are some of us who remember paying one dollar a grain for cocaine.

Society Proceedings

ADAMS COUNTY

A joint meeting of the Adams County Medical Society with the Adams-Hancock County Dental Society at the Elks' Club was called to order March 8, 1926, at 8:15 P. M. by our president. 38 members were present.

By ruling of the president the business session was held first. The application of J. Tully Snider for membership in the Society was read and referred to the Board of Censors. A letter was read from the Attorney General of the State of Illinois stating that the Adams County Medical Society was delinquent in regard to its franchise tax. The Secretary stated that he had replied to this letter to the effect that this society was not incorporated and after some discussion it was agreed that the secretary's reply had taken care of the matter. Dr. Montgomery sent a report for the committee that had been appointed to investigate a meeting place for the society.

Dr. A. H. Sohm gave a very interesting paper on, "Cooperation Between the Medical and Dental Profession," from the dental viewpoint and Dr. H. J. Jurgens gave a very scholarly paper on the same subject from the medical viewpoint. The discussion was opened by Drs. L. P. Spann and C. D. Center

and was then carried on by Drs. Williams, Irwin, Naumann, Keeney, A. Germann, Wolfe, Shulian, Koettters and Cohen, being closed by the essayists.

An interesting case report on a case of Eclampsia was read by Dr. Aldo Germann and Dr. Grant Irwin presented a case history of a Leg Ulcer. These case histories were discussed by Drs. Center, Jurgens, Miller, Williams, Austin and Blomer.

There was a splendid spirit throughout the entire meeting which manifested itself for a greater desire for closer cooperation between the medical and dental professions and all agreed that meetings of this kind should be held from time to time. Adjournment was made about 10:45 P. M.

HAROLD SWANBERG, M. D., Secretary.

COOK COUNTY

CHICAGO MEDICAL SOCIETY

Symposium on Exophthalmic Goiter, March 10, 1926.

1. X-ray Treatment, Ed. L. Jenkinson. Discussion, M. J. Hubeny.
2. Surgical Treatment, George W. Crile, Cleveland, Ohio. Discussion, Karl Meyer, Nelson Percy.
3. Medical Treatment, Chas. A. Elliott. Discussion, Jos. L. Miller.

Joint Meeting Chicago Medical and Chicago Urological Societies, March 17, 1926.

1. The Study of Methods Used in the Diagnosis of Renal Tuberculosis (lantern slide demonstration), Charles Morgan McKenna.
2. Peri-renal Inflammation, Louis E. Schmidt.
3. The Role of the Urologist in General Diagnosis (lantern slide demonstration), Herman L. Kretschmer.

Joint Meeting Chicago Medical Society and the Aux Plaines Branch, March 24, 1926.

Cholecystitis With Consideration of Some of the Associated Problems, E. Starr Judd, Mayo Clinic, Rochester, Minn.

Discussion, Nelson M. Percy, Chas. E. Humiston, Jos. L. Nortell.

DE KALB COUNTY

March 18, 1926, the DeKalb County Medical Society with twenty present assembled for a 12:30 P. M. dinner at the County Tuberculosis Sanitarium on the De Kalb-Sycamore road. A delicious chicken dinner was served by Mrs. Estrid Miller and her assistants.

Among the guests were the three members of the Sanitarium board, Dr. G. S. Culver, C. E. Bradt and S. M. Henderson. Out of town guests were Dr. R. Rosworth, medical director of the Rockford Tuberculosis Sanitarium and Dr. D. B. Penniman, our counselor, from Rockford.

Following the dinner our president, Dr. C. D. Carter, called the meeting to order. Letters were read from Alvin Warren, candidate for State Repre-

sentative from the 35th district and Dr. H. G. Wright, candidate for re-election to the State Senate. Both pledged their allegiance to the regular practicing physicians in matters pertaining to medical legislation, if elected. Both Mr. Warren and Senator Wright were unanimously endorsed by the society.

The question of free T. B. clinics by the Clinicians of the State Tuberculosis Association was left to the discretion of Dr. J. W. Ovitz, the medical director of our county institution. Dr. Ovitz spoke of the need of a new building to house the waiting tuberculosis cases.

Dr. Guy J. Wormley of Sandwich was unanimously elected a member of our Society.

Dr. P. S. Winner, medical director of the Chicago Tuberculosis Sanitarium gave us a fine lecture, illustrated by lantern slides of tubular cavity obliteration by artificial pneumothorax and by surgical collapse of the lung. In the latter cases the ribs are cut close to the spine. The cases that show fibrosis are the most favorable for operation.

Dr. C. B. Brown of Sycamore, reported two cases of rapid recovery from scarlet fever following the use of Dick's scarlet fever antitoxin.

A vote of thanks was given Mrs. Estrid Miller and the officials of the Sanitarium for their royal entertainment.

Meeting adjourned.

CLIFFORD E. SMITH, Secretary.

GREENE COUNTY

Meeting of the Greene County Medical Society held in Carrollton on Friday, March 12, 1926. After dinner at Hotel Lindsay, thanks to the physicians of Carrollton, the meeting was called to order in the parlors of Hotel Lindsay by the secretary, the president being absent, and Doctor E. E. Jouitt was chosen chairman pro-tem.

Minutes of the last meeting were read and approved.

Dr. W. H. Garrison was appointed delegate to our state society for 1926.

Dr. N. J. Bucklin was chosen as alternate.

The president appointed Dr. C. R. Thomas, censor, to fill the vacancy caused by the election of Dr. F. H. Russel to the vice-presidency.

The meeting then adjourned to the Bijou Theatre where we listened to a very interesting and instructive lecture by Dr. Bransford Lewis of St. Louis on "Urology for the General Practitioner."

The lecture was illustrated by lantern slides and was thoroughly enjoyed by those who were fortunate enough to be present. We hope to have Dr. Lewis with us again when health and road conditions will permit of a larger attendance.

Owing to the lateness of the hour, the paper by Dr. E. E. Jouett and case reports by Dr. Geo. Garrison were not presented but will be presented at our next meeting.

Nine members and three visitors were present.

W. H. GARRISON, Secretary.

Meeting adjourned.

Marriages

LEROY CHAPIN to Mrs. Jean Harris, both of Canton, Ill., January 22.

Personals

Dr. John W. H. Pollard, formerly of Quincy, has been appointed commissioner of health of Evanston, effective April 1, to succeed Dr. Clarence T. Roome, resigned.

Dr. Thomas G. Hall has resigned from the Dixon State Hospital to engage in private practice in St. Louis.

Dr. Herman L. Kretschmer has resigned as attending genito-urinary surgeon to the Alexian Brothers Hospital.

Dr. George Klumpner has resigned as associate physician at the Illinois Valley Hospital and Ottawa Tuberculosis Sanatorium, to engage in private practice.

Dr. Russell D. Herrold, Chicago, addressed the Rock Island and Scott County Medical Societies, Rock Island, March 9, on "Treatment of Venereal Diseases."

William H. Taliaferro, Ph.D., associate professor of parasitology, University of Chicago, sailed for Tela, Spanish Honduras, March 20, to make a serologic study of malaria; his headquarters will be at the hospital of the United Fruit Company.

Drs. Kellogg Speed, president of the Chicago Surgical Society, and Karl A. Meyer, assistant warden at the Cook County Hospital, are en route to Rome to attend the International Surgical Congress, April 6-11.

News Notes

—Citizens of Beardstown will vote at the April election on the imposition of a tax of 3 1-3 mills for the erection of a public hospital.

—The Chicago Surgical Society met at the University Club, March 5, and at Mercy Hospital for the clinical meeting; among others, Dr. John F. Golden gave a lantern demonstration of "A Study in Bone Transplants."

—The Chicago Medical Society is mailing to all members a copy of the "Health Examination Manual" compiled by the American Medical Association, and has appointed Dr. James H. Hutton chairman of the committee for demon-

strating uniform health examination according to this manual.

—The council of the Chicago Medical Society has appointed a committee consisting of Drs. Jeremiah H. Walsh, Clarence B. King and Frank R. Morton to study the Illinois industrial act as it applies to fees submitted by physicians under this act.

—The Alton Medical Society has decided to assume responsibility for conducting the crippled children's clinic at St. Joseph's Hospital in that city, and to take over the work done heretofore under the auspices of the Illinois Crippled Children's Society. The clinic will be held weekly, but the local physicians will render assistance whenever necessary at any time.

—Maud Slye, Ph.D., addressed the Chicago Pathological Society, March 8, on "Some Misconceptions Regarding the Relation of Heredity to Cancer and Other Diseases;" Edmond R. Long and Florence B. Seibert, Ph.D., on "The Nature of the Active Principle in Tuberculin," and Dr. Henry C. Sweany on "Mutation Forms of the Tubercle Bacillus."

—The chairman of the Chandler lecture committee announced at Columbia University, New York, March 8, that the Chandler Gold Medal for 1926 had been awarded to Samuel W. Parr, M.S., professor of applied chemistry, University of Illinois, "in recognition of distinguished achievement in chemical science." Professor Parr will deliver the annual Chandler lecture in Havermeyer Hall, Columbia University, April 23, on "The Constitution of Coal."

—Members of the Madison County Medical Society, Edwardsville, held their annual banquet, February 22, at the Country Club to celebrate Dr. Edward W. Fiegenbaum's completion of fifty years in the practice of medicine in Edwardsville. Dr. Benjamin H. King, Granite City, president of the society, was toastmaster; the principal speaker was U. S. Attorney Thomas Williamson; other guests were Dr. Jonathan L. Wiggins, East St. Louis, and Dr. William F. Grinstead, Cairo. Dr. Fiegenbaum, who is secretary of the society, was presented with a watch and chain valued at \$250.

—Four units of U. S. Veterans' Bureau Hospital No. 105, located opposite the Great Lakes Naval Training Station, were opened March 1, and twenty patients from the state hospital for

the insane at Elgin were admitted. The capacity of the hospital when the other units are completed will be 1,000 and mentally ill veterans from Kankakee, Jacksonville, the Edward Hines Hospital, and Camp Custer, Mich., will be transferred to this hospital. The staff at present is said to comprise six physicians, fifteen nurses and other attendants. Dr. Oscar C. Willhite, medical officer in charge, has served in government hospitals at Perryville, Md., Knoxville, Iowa, Ann Arbor, Mich., Lakewood, N. J., and Fort McPherson, Ga.

—The trustees of Northwestern University announced, March 13, that Mrs. A. Montgomery Ward had made another gift of about \$4,000,000 for the purpose of enabling the university "to obtain the highest quality of personnel for the instructional and research staff of your medical and dental schools." About two years ago Mrs. Ward made a gift of \$4,000,000 for the erection and maintenance of the Montgomery Ward Memorial Medical-Dental Center, which will be a fourteen-story structure with a five-story tower. The medical school will occupy the first seven stories, the dental school the next six stories, and laboratories the fourteenth story. The tower will be used for the downtown administrative offices of the university.

—Construction has started on a ten-story Y. M. C. A. building to be erected at Congress and Wood streets, for the exclusive use of professional students attending the medical and dental schools in that locality. The building will be of stone to the third story, and of stone and brick from there to the top. The first floor will house the gymnasium, handball courts and shops. The second floor, club rooms, a cafeteria, offices, lounges, lockers and showers; on the remaining floors will be 365 rooms for students. The building will cost \$750,000, of which the students subscribed \$50,000, and members of the faculties of various schools, \$150,000; it will be completed about December, 1926. The chairman of the committee of management is Dr. Channing W. Barrett. The structure is said to be the first of its type to be erected by the Y. M. C. A.; the design is in harmony with the other buildings in the association's expansion program.

—Judge Marcus Kavanagh requested the Chicago Medical Society to appoint three alienists to make a mental examination of a prisoner sen-

tenced to be hanged for murder, and Dr. Malcolm L. Harris, president of the society, appointed Drs. Ralph C. Hamil, Charles F. Read and Lewis J. Pollock. Their testimony is said to have determined the verdict of the jury, which was that the prisoner was sane; previously two alienists employed by the defense are said to have pronounced him insane while two other alienists employed by the prosecution had pronounced him sane. Judge Kavanagh's plan of obtaining impartial evidence of alienists for insanity hearings is said to be new.

—March 23, 24 and 25, Dr. Aldo Castellani, Professor of Tropical Medicine at Tulane University and recently of the Liverpool School of Tropical Medicine, delivered the Gehrman Memorial Lectures of the University of Illinois, College of Medicine in the gymnasium, on the subject, "Fungi as Causative Agents of Disease in the Tropics and in the Temperate Zone."

—The American Board of Otolaryngology has arranged for two examinations during the month of April as follows: St. Paul's Sanitarium, Dallas, Texas, Monday, April 19th, at 9 A. M.; Stanford University Medical School, Clay and Webster Streets, San Francisco, California, Tuesday, April 27th, at 9 A. M. Applications may be secured from the Secretary, Dr. H. W. Loeb, 1402 South Grand Boulevard, St. Louis, Missouri.

Deaths

EDWARD LOFTUS HOPE BARRY, Jerseyville, Ill.; Rush Medical College, Chicago, 1860; Civil War veteran; formerly mayor of Jerseyville, county coroner, county physician and member of the board of education; aged 88; died, February 4, of bronchitis.

DANIEL WEBSTER FRANTZ, Metcalf, Ill.; Barnes Medical College, St. Louis, 1903; a Fellow, A. M. A.; aged 58; died, February 23.

JOHN W. GROESBECK, Harvard, Ill.; Rush Medical College, Chicago, 1866; Civil War veteran; also a druggist; aged 87; died, February 8.

GEORGINA A. GROTHAN, Winnetka, Ill.; Northwestern University Woman's Medical School, Chicago, 1893; died February 12.

FREDERICK ANDREW HESS, Chicago; Rush Medical College, Chicago, 1873; a Fellow, A. M. A.; aged 74; died, Dec. 25, 1925, of angina pectoris.

GEORGE W. HOWARD, Alvin, Ill.; Hospital College of Medicine, Louisville, Ky., 1876; aged 77; died, February 8.

NORMAN KERR, Chicago; McGill University Faculty of Medicine, Montreal, Que., Canada, 1889; a Fellow,

A. M. A.; member of the Chicago Surgical Society; formerly professor of surgery, Chicago Policlinic and Hospital; on the staff of the Henrotin Memorial Hospital, and at one time on the staffs of the Children's Memorial and Cook County hospitals; served during the World War; aged 58; died, March 8, of heart disease.

LEWELLYN C. MERRILL, Chicago; Bennett Medical College, Chicago, 1914; formerly superintendent of the Illinois General Hospital; aged 55; died, February 27, of chronic myocarditis.

THEODORE N. RAFFERTY, Robinson, Ill.; Medical College of Ohio, Cincinnati, 1869; member of the Illinois State Medical Society; aged 80; died, February 6, of myocarditis.

He was one of the pioneer surgeons in central eastern Illinois, and almost a life-time member of the Crawford County Medical Society, The Illinois State Medical Society, The American Medical Association and the Aesculapian Society of the Wabash Valley, serving as president of the latter in 1903.

He retired from active practice in 1912, on account of poor health, but maintained his interest in the profession, and its gatherings, to the last.

NILS E. REMMEN, Chicago; University of Illinois College of Medicine, Chicago, 1887; a Fellow, A. M. A.; member of the American Academy of Ophthalmology and Oto-Laryngology, and the Chicago Ophthalmological Society; formerly on the staffs of the Lutheran Deaconess, Norwegian-American and Lutheran Memorial hospitals and the Illinois Charitable Eye and Ear Infirmary; aged 62; died, February 28, at Fair Hope, Ala., of leukemia.

CHARLES FREDERICK ROAN, Chicago; Northwestern University Medical School, Chicago, 1891; a Fellow, A. M. A.; on the staff of the Norwegian American Hospital; aged 60; died, February 15, of myocarditis.

WILLIAM EDWARD SCHROEDER, chief of staff and attending surgeon in the Wesley Memorial Hospital, Chicago, died in St. Petersburg, Fla., March 5, aged 59. Dr. Schroeder received his preliminary education in the University of Illinois and his degree in medicine from the Chicago Medical College in 1891. A Fellow, A. M. A. He at once took up the practice of surgery, and was at various times associated with Cook County, Provident and People's hospitals and as consulting surgeon of the Illinois Central Railroad, and from 1906 to 1914 was professor of surgery at Northwestern University Medical School. He was for many years recognized as a surgeon of great technical skill.

HIRAM S. SHORT, Fillmore, Ill.; Eclectic Medical Institute, Cincinnati, 1873; aged 85; died, February 8, at Nokomis, of cerebral hemorrhage.

JUDSON EUGENE STRONG, Cairo, Ill.; Cleveland University of Medicine and Surgery, 1880; aged 70; died, February 9, at St. Mary's infirmary, following an operation for gallstones.

WILLIAM THOMAS TREWYN, Peoria, Ill.; Northwestern University Medical School, Chicago, 1905; a Fellow, A. M. A.; formerly member of the school board; aged 51; died, February 11, following a long illness.



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ANNUAL MEETING, CHAMPAIGN-URBANA, MAY 18-20, 1926

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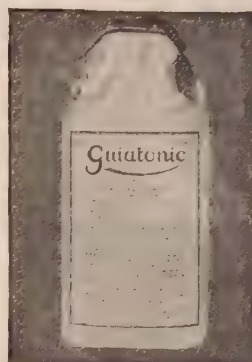
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ILLINOIS MEDICAL JOURNAL

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ILLINOIS MEDICAL JOURNAL

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State Society will pay no bills for legal services except those contracted by the Committee. Notify the Chairman at once. Do not employ attorneys.

Send original articles and all communications relating to advertisements to Dr. Charles J. Whalen, Editor, 6221 Kenmore Avenue, Chicago.

Membership correspondence to Dr. Harold M. Camp, Monmouth, Ill.

Society proceedings and news items and changes in the mailing list to Dr. Henry G. Ohls, Managing Editor, 1618 Juneway Terrace, Chicago.

Contributors will submit all copy for publication typewritten on standard size paper and double spaced. Copy not complying with this rule will be returned, if convenient.

Subscription price of this Journal to persons not members of the Illinois State Medical Society is \$3.00 per year, in advance, postage prepaid, for the United States, Cuba, Porto Rico, Philippine Islands, Hawaiian Islands and Mexico. \$5.50 per year for all foreign countries included in the postal union. Canada, \$5.25. Single current copies, 35 cents. Back numbers, after three months from date of publication, 60 cents.

MESSAGE FROM COMMITTEE ON ARRANGEMENTS

The Committee on Arrangements for the 76th Annual Meeting of the Illinois State Medical Society to be held in Champaign-Urbana May 18, 19 and 20, 1926, has endeavored to arrange everything in connection with the meeting for the best interests of our members and guests. It is the desire of this committee, in addition to that of the officers of the Society and others interested, to make this a meeting that we can all point to in later years, with much satisfaction. We are prepared to handle in the Twin-Cities (Champaign-Urbana) a large crowd. If you are unable to get a reservation in our hotels, do not let that keep you away from the meeting. We have many fine rooms close to the meeting places to take care of a very large attendance, so everyone in attendance will have a good place to stay while in our cities. The meeting places are less than a block apart. They are near the shopping and hotel districts. We will have cars to meet our visitors at the train, and take them to headquarters, or their hotel. Our reception committee consists of every member of the Champaign County Society, and if you want anything "ask us." Railroad facilities to these cities are excellent. Many will come in automobiles. We will have ample parking places for all cars. Hard roads run into Champaign-Urbana from all directions. If you come by rail, land or air, you will be cared for comfortably. This is your meeting, and as hosts for the hundreds expecting to attend the meeting we want to extend our personal greeting, and we ask you to make a special effort to attend the meeting, enjoy our hospitality and visit your State University. The University of Illinois invites you to visit the institution during the meeting. We assure you that we will do everything possible to make you feel welcome—all of our business houses, the Chamber of Commerce, every fraternal, commercial, and industrial organization, our educational institutions, and es-

pecially the Champaign County Medical Society will all join in welcoming you.

Signed,

EARL D. WISE, *Chairman*,

H. C. KARIHER,

JAS. S. MASON,

J. C. DALLENBACH,

C. GEORGE APPELLE,

Committee on Arrangements.

MEMBER OF THE UNITED STATES CABINET TO OPEN ILLINOIS STATE MEDICAL SOCIETY MEETING

Dr. Hubert Work, secretary of the Interior, will open on May 18 the annual meeting of the Illinois State Medical Society.

His speech transmitted by radio from Washington to Champaign where the convention will be held will treat of matters of moment to the profession of which Dr. Work is a member, as well as of public welfare.

This honor to the State Society will be as democratic as the profession in which Dr. Work made his mark.

Doctor Work's speech will be broadcast from WLS, Chicago, at 7:45 P. M., Standard Time, 8:45 P. M., Chicago Daylight Saving Time.

Tune up your radios and hear what one member of President Coolidge's cabinet thinks about burning questions of the hour.

REDUCED FARE ON RAILROADS FOR CHAMPAIGN-URBANA MEETING

The Western and Central Passenger Association have granted us a fare reduction. The reduced fare on a basis of one and one-half fare on the certificate plan will be granted from any point in Illinois and from St. Louis for all those traveling by rail to Champaign-Urbana.

The following directions are submitted:

Tickets should be purchased at the normal one way fare for the going journey to Champaign-Urbana. These may be bought from May 14 to May 20, inclusive.

Be sure when purchasing your ticket to ask the ticket agent for a Convention Certificate, which will be given you at the time. If the agent is unable to issue a Convention Certificate, ask for a receipt giving the date, destination, and amount paid for the one way ticket.

See that the ticket reads to Champaign and have your certificate or receipt stamped with the same date as your ticket.

Sign your name to the certificate or receipt in ink, in the presence of the agent.

Immediately upon your arrival at Champaign your ticket should be deposited at the Registration Booth.

If the minimum of 250 regularly issued certificates or receipts are presented, they will be validated by an agent of the railroads, and the Secretary of the Society, and you will be granted a return ticket by the same route as the going journey, at one-half of the normal rate.

We hope that every member of the Society, and our guests expecting to attend the meeting will keep this in mind so that the minimum number of certificates will be presented to get the reduced rates.

INVITATION FROM UNIVERSITY OF ILLINOIS

Urbana, Ill., April 19, 1926.

Dr. Harold M. Camp,
Monmouth, Illinois.

Dear Dr. Camp: It is my hope that when the Illinois State Medical Society meets here in May, provision will be made on the program for an inspection of the University of Illinois campus and buildings to enable the delegates to learn something of the physical plant and educational operations of their State University. I am writing this note to extend, through you, a cordial invitation to the society to make such a visit. The University will be glad to provide guides for the delegates and will do all it can to make their visit interesting.

Sincerely yours,

DAVID KINLEY,

President.

DR. HAGGARD, PRESIDENT OF THE A. M. A., WILL BE PRESENT AT ANNUAL MEETING

Dr. W. D. Haggard of Nashville, Tennessee, President of the American Medical Association, will give the oration on surgery at the 76th Annual Meeting of the Society to be held at Champaign-Urbana May 18, 19, 20. The subject of Dr. Haggard's oration is "The Present Status of the Goiter Problem; with Lantern Illustrations." We should consider ourselves very fortunate in persuading Dr. Haggard to attend the meeting and we can be assured that his oration will be one of the important features of the meeting.

ILLINOIS STATE MEDICAL SOCIETY

SEVENTY-SIXTH ANNUAL MEETING

1850—1926

Champaign-Urbana, May 18, 19, 20, 1926

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 J. S. Nagel.....3rd Dist., Chicago, 1928
 W. D. Chapman, Chmn...4th Dist., Silvis, 1928
 S. E. Munson.....5th Dist., Springfield, 1928
 I. H. Neece.....7th Dist., Decatur, 1928

ILLINOIS MEDICAL JOURNAL

Charles J. Whalen, Editor.....Chicago
 Henry G. Ohls, Managing Editor.....Chicago

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 Warren Johnson.....Chicago
 John F. Sloan.....Peoria

MEDICAL LEGISLATION

John R. Neal, Chairman.....Springfield
 Chas. E. Humiston.....Chicago
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SECTION OFFICERS

SECTION ON MEDICINE

B. V. McClanahan, Chairman.....Galesburg
 LeRoy H. Sloan, Secretary.....Chicago

SECTION ON SURGERY

Philip H. Kreuscher, Chairman.....Chicago
 E. P. Coleman, Secretary.....Canton

SECTION ON EYE, EAR NOSE AND THROAT

Chas. Moore Robertson, Chairman.....Chicago
 Louis Ostrom, Secretary.....Rock Island

SECTION ON PUBLIC HEALTH AND HYGIENE

C. H. Diehl, Chairman.....Effingham
 H. V. Gould, Secretary.....Chicago

SECRETARIES' CONFERENCE

Harold Swanberg, President.....Quincy
 Elizabeth R. Miner, Vice-President....Macomb
 J. S. Templeton, Secretary.....Pinckneyville

COMMITTEE ON ARRANGEMENTS

Earl D. Wise, Chairman.....Champaign
 J. C. Dallenbach.....Champaign
 J. S. Mason.....Urbana
 H. C. Kariher.....Champaign
 C. George Appelle.....Champaign

MEETINGS OF THE HOUSE OF DELEGATES

Tuesday Evening, May 18, 1926

9:00

Meeting called to order by the President, J. C. Krafft, for reports of officers, committees, and other business to come before the House.

Thursday Morning, May 20, 1926

8:00

Meeting called to order by the President for the election of officers, reports of committees and other business.

ENTERTAINMENT

An excellent entertainment is being arranged by the Committee on Arrangements for the ladies, during the entire session. The plans have not yet been perfected, but will appear in the printed program in detail. This will give the ladies an unusual opportunity to see the beauties of the University, the Twin Cities, and to participate in the social affairs being planned for them.

Entertainments for the members and the guests of the society are also planned, but the exact program has not yet been announced.

Alumni and Fraternity banquets can be arranged for, by writing the Committee on Arrangements. It is expected that there will be a number of such banquets, and class reunions during the meeting.

GENERAL SESSIONS

Masonic Temple

Tuesday Evening, May 18, 1926

7:30—Call to order of the Society by the President, J. C. Krafft.

Invocation, Rev. Herbert A. Keck, D. D., Pastor First M. E. Church, Champaign.

Addresses of Welcome—George J. Babb, Mayor of Champaign, and W. F. Burres, M. D., Mayor of Urbana.

Report of the Chairman of the Committee on Arrangements, Earl D. Wise, Chairman, Champaign.

Address, David Kinley, Ph. D., LL.D., President, University of Illinois, "Some Influences Affecting Medical Education." (It is planned to have this address broadcast by the University of Illinois Radio Station.)

Wednesday Afternoon, May 19, 1926

2:00—Oration in Surgery: "The Present Status of the Goiter Problem:" with lantern illustrations, W. D. Haggard, President, American Medical Association, Nashville, Tenn.

4:00 to 6:00—Joint meeting of Sections for Teaching Clinics. Demonstration of Orthopedic and Pediatric Cases. (Names of those participating, to be announced.)

Wednesday Evening, May 19, 1926

7:30—President's Address, J. C. Krafft, President, Illinois State Medical Society. (Subject to be announced.)

Oration in Medicine: "Criminology as Related to Endocrinology," Wm. Engelbach, St. Louis, Mo.

10:00—Entertainment for Members and Guests, given by the Champaign County Medical Society.

Thursday Morning, May 20, 1926

8:00 to 12:00—Teaching Clinics: "Discussion of Medical and Surgical Aspects of Upper Abdominal Diseases." (Names of clinicians and their individual subjects to be announced.)

SECRETARIES' CONFERENCE

Harold Swanberg, President.....Quincy
Elizabeth R. Miner, Vice-President....Macomb
J. S. Templeton, Secretary.....Pinckneyville

Masonic Temple

Tuesday, May 18, 9:30 A. M.

1. The County Secretary's Task in Missouri—E. E. Brunner, Marshall, Mo., formerly secretary of Secretaries' Conference, Missouri State Medical Society.

Discussion, J. S. Templeton, Pinckneyville.

2. The 100% Efficient County Medical Society Secretary—Harold M. Camp, Secretary, Illinois State Medical Society, Monmouth.

Discussion, J. W. Hamilton, Secretary, Jefferson County Medical Society, Mt. Vernon.

3. Political Attitude of Physicians—J. R. Neal, Springfield, Chairman, Legislative Committee, Illinois States Medical Society.

Discussion, E. W. Fiegenbaum, Edwardsville, Ex-President, Illinois State Medical Society.

Observations from the Standpoint of a new Secretary—B. V. McClanahan, Galesburg, Secretary Knox County Medical Society.

Discussion, W. C. Blaine, Tuscola.

5. Remarks by Olin West, Chicago, Secretary, American Medical Association.

6. Remarks by Mather Pfeifferberger, Alton, President-Elect, Illinois State Medical Society.

7. Remarks by J. C. Krafft, Chicago, President, Illinois State Medical Society.

Every physician regardless of whether or not he is a county secretary, is cordially invited to attend this conference.

SECRETARIES' BANQUET

The Annual Banquet will be held at the Champaign Elks' Club, at 6:00 P. M. Wednesday evening, May 19. Tickets are \$1.25 and can be procured from any of the officers of the Conference or at the Registration Desk. There will be some splendid addresses and every physician is invited to attend.

SECTION PROGRAMS

SECTION ON MEDICINE

B. V. McClanahan, Chairman

Leroy H. Sloan, Secretary

Masonic Temple

Tuesday, May 18, 1:00 P. M.

1:00—Renal Insufficiency and its Treatment—N. C. Iknayan, Charleston.

Discussion, S. E. Munson, Springfield.

1:30—The Cardiac Manifestations of Goiter—
Frank O. Deneen, Bloomington.

1:50—Recent Medical Treatment of Goiter;
Toxic and Non-Toxic—Henry M. Thomas, Johns
Hopkins Hospital, Baltimore. (By invitation.)

Discussion of goiter papers by James H. Hut-
ton, Chicago.

2:30—Fecoliths with Megacolon; Report of a
Case (with lantern slides)—Leland H. An-
derson, Aurora.

2:50—The Diagnosis and Treatment of Non-
Specific Ulcerative Colitis (with lantern slides)
—Sidney Portis, Chicago.

Discussion of both papers, James Mason, Ur-
bana.

3:30—The Treatment in Gastric and Duode-
nal Ulcer—J. B. Beykirch, East St. Louis.

3:50—The Rationale of the Neutralization
Treatment of Peptic Ulcer (with lantern
slides)—Donald Abbott, Chicago.

Discussion of both papers, Walter Palmer,
Chicago.

Wednesday, May 19, 8:00 A. M.

8:00—Polycythemia, Report of a Case with
Low Hemoglobin—J. C. Reddington, Galesburg.
Discussion, George Parker, Peoria.

8:30—Some Observations of Etiology and
Treatment of Pathological Blood Pressures—
Nathan S. Davis III, Chicago.

Discussion to be announced.

9:00—The Conquest of Disease—John J. Mc-
Shane, State Department of Health, Spring-
field.

Discussion, S. S. Winner, Springfield.

9:30—Paroxysmal Tachycardia—James Carr,
Chicago.

9:50—Coronary Thrombosis—Isadore Trace,
Chicago.

Discussion of both papers, Harry Durkin,
Peoria, and Frederick Burcky, Chicago.

10:30—Arsenic Therapy in Pulmonary Infec-
tions (with lantern slides)—Isadore Pilot,
Chicago.

10:50—Newer Therapeutic Methods in the
Treatment of Pulmonary Tuberculosis (with
lantern slides)—P. S. Winner, Medical Superin-
tendent Municipal Tuberculosis Sanitarium,
Chicago.

Discussion both paper, LeRoy H. Sloan, Chi-
cago.

11:30—When the Doctor Dies; What Does He
Have to Sell?—Emmet Keating, Chicago.

Wednesday Afternoon, May 19

3:00—Malarial Treatment of Paresis—
Charles F. Read, Chicago; John Nerancy, Jack-
sonville, and H. Tucker, Elgin.

Statement of Limitations and Possibilities in
the Treatment of Syphilis of the Nervous Sys-
tem—Peter Bassoe, Chicago.

3:30—Newer Knowledge Concerning Nephri-
tis—W. McKimm Marriott, Professor of Pedi-
atrics and Dean of Washington University
Medical School, St. Louis.

Discussion, Warren Pearce, Quincy.

Remainder of time to 6 p. m.—Teaching Clinic
of Orthopedic and Pediatric Cases—W. Mc-
Kimm Marriott and others.

Thursday, May 20, 8:00 to 12:00 A. M.

Teaching Clinics: Medical and Surgical
Aspects of Upper Abdominal Diseases. Clini-
cians to be announced.

SECTION ON SURGERY

Philip H. Kreuscher, Chairman

E. P. Coleman, Secretary

Tuesday, May 18, 1926, 1-5 P. M.

1. Palliative Treatment of Inoperable Can-
cer—J. K. Narat, Chicago.

Discussion to be opened by C. E. Black, Jack-
sonville.

2. Further Observations on the Use of Col-
loidal Gold in Inoperable Cancer—Edward H.
Ochsner, Chicago.

Discussion to be opened by Daniel A. Orth,
Chicago, and George L. Apfelbach, Chicago.

3. X-Ray Diagnosis of Gall-Bladder Lesions
—William A. Brams, Chicago.

Discussion to be opened by W. P. Grinstead,
Cairo, and Warren Furey, Chicago.

4. Adenomas of the Recto-Vaginal Septum—
C. U. Collins, Peoria.

Discussion to be opened by J. J. Moore,
Chicago.

5. Hernia, The Public Health Problem—Ed-
mund Andrews, Chicago.

Discussion to be opened by Flint Bondurant,
Cairo.

6. Some Points on the Surgery of Breast
Cancer—Jabez N. Jackson, Kansas City, Mo.,
President-Elect of the American Medical Asso-
ciation. (By invitation.)

7. Cancer of the Bladder—Daniel N. Eisen-drath, Chicago.

Discussion to be opened by J. C. R. Wettstein, Effingham.

8. Surgical Treatment of Congenital Umbilical Hernia—H. P. Saunders, Chicago.

Discussion to be opened by William R. Cubbins, Chicago, and A. U. Christiansen, Rockford.

Wednesday, May 19, 1926, 8 A. M. to 12 M.

9. Traumatic Gumma and Its Relation to Compensation Insurance—J. P. Hahn, Galesburg.

Discussion to be opened by S. H. Easton, Peoria, and A. M. Miller, Danville.

10. Clinical Significance of Laboratory Diagnosis—Edward H. Weld, Rockford.

Discussion to be opened by E. P. Sloan, Bloomington.

11. Radium Emanation in the Treatment of Intra-Oral Cancer—F. E. Simpson and R. E. Flesher, Chicago.

Discussion to be opened by Harold Swannberg, Quincy, and C. W. Hanford, Chicago.

12. Surgical Diathermy in Accessible Neoplasms (moving picture demonstration)—D. Kobak, Chicago.

Discussion to be opened by Harold T. Plank, Chicago, and Carl Beck, Chicago.

13. Surgical Treatment of Advanced Osteomyelitis—Don Deal, Springfield.

Discussion to be opened by Emil Beck, Chicago.

14. Retromediastinal Abscesses Complicating Dorsal Pott's Disease—Arthur Steindler, Professor of Orthopedic Surgery, University of Iowa School of Medicine, Iowa City, Iowa. (By invitation.)

15. Spondylitis of Unknown Origin Simulating Typhoid Spine—S. C. Woldenburg, Chicago.

Discussion to be opened by C. W. Hopkins, Chicago, and B. C. Cushway, Chicago.

16. Some Problems in Bone Surgery—J. R. Harger, Chicago.

Discussion to be opened by James H. Finch, Champaign.

Wednesday, May 19, 1926, 3-4 P. M.

17. Surgical Indications in Fibroid Uteri—W. A. Newman Dorland, Chicago.

Discussion to be opened by H. E. Ross, Danville, and Henry Schmitz, Chicago.

18. Emergency Lung Surgery—Donald Macrae, Council Bluffs, Iowa. (By invitation.)

Wednesday, May 19, 4-6 P. M.

Orthopedic and Pediatric Teaching Clinic—Joint Meeting of Medical and Surgical Sections.

Thursday, May 20, 8-12 P. M.

Teaching Clinic—Discussion of the Medical and Surgical Aspects of Upper Abdominal Diseases—Joint Meeting of the Medical and Surgical Sections.

SECTION ON EYE, EAR, NOSE AND THROAT

Chas. Moore Robertson, Chairman.

Louis Ostrom, Secretary.

Elks' Club

Tuesday, May 18, 9 A. M.

DRY CLINICS

1. Labyrinthitis and Brain Abscess following Mastoiditis—George W. Boot, Chicago.

2. Spheno-Palatine Syndrome and Its Relation to Ozena—Harry Pollock, Chicago.

3. The Various Types of Iridectomy—George F. Suker, Chicago.

4. Non-Operative Treatment of Glaucoma—Harry W. Gradle, Chicago.

5. Congenital Dacryocystitis—Harry W. Woodruff, Joliet.

6. Teaching of Oto-Laryngology—Norval H. Pierce, Chicago.

The Annual Section Banquet will be held at 6:30 p. m.

Wednesday, May 19, 8:30 A. M.

1. Otological Complications of Basal Skull Fractures—C. F. Yerger, Chicago.

Discussion, Howard C. Ballenger, Chicago.

2. Observations of the Fundus Oculi in Tryparsamid Treatment of General Paralysis of the Insane—J. C. Roth, Kankakee.

3. Refraction Now, and 40 Years Ago—C. W. Hawley, Chicago.

4. Chronic Suppurative Otitis Media—O. J. Nothenberg, Chicago.

Discussion, Frank J. Novak, Jr., Chicago.

5. Recent Work on the Function of the Semi-circular Canals—Coleman Griffith, Champaign. (By invitation.)

6. Facioerisis (with movie demonstration)—W. A. Fisher, Chicago.

Discussion by Harry Woodruff, Joliet.

2:00 P. M.

7. The Signification of Pain in Para-Sinusitis—C. H. Long, Chicago.

8. Endoscopy—H. R. Watkins, Bloomington.

Discussion, Wesley H. Peck, Chicago.

9. Treatment of Suppurative Frontal Sinusitis—A. A. Hayden, Chicago.

Discussion, J. Niess, Carmi.

10. History of Our Specialty—D. D. Barr, Taylorville.

11. Mumps of the Lachrymal Gland—James E. Lebensohn, Chicago.

SECTION OF PUBLIC HEALTH AND HYGIENE

C. H. Diehl, Chairman.

H. V. Gould, Secretary.

Elks' Club

Tuesday, May 18, 1:00 P. M.

1. Some Medical Conditions that Influence Scholastic Standing—Harold T. Larson, B. S., and J. Howard Beard, Urbana.

2. Relation of Women's Clubs to the Public Health Program—Lena K. Sadler, Chicago.

3. Relation of the Dentist to the Public Health—W. F. Whalen, D.D.S., President-elect, Illinois State Dental Society, Peoria. (By invitation.)

Discussion by John Vorachen, Peoria.

4. Practical Methods for Advancing Popular Health Education—Herman N. Bundeson, Commissioner of Health, Chicago.

5. Stream Pollution and Methods of Prevention (with lantern slides)—Mr. Langdon Pearse, Sanitary District of Chicago.

Discussion, Mr. H. F. Ferguson, Chief Sanitary Engineer State of Illinois, Springfield.

6. Standardizing Public Health Practice—C. St. Clair Drake, Chicago.

Discussion, S. S. Winner, Chief, District Health Superintendent Service, Department of Public Health, Springfield.

Wednesday, May 19, 8:00 A. M.

7. Changing Tendencies in Public Health Methods—George Palmer, Springfield.

8. Observation from the Note Book of a Coroner's Physician—Thomas Foley, Chicago.

9. Preventive Medicine in Pediatrics—A. E. Williams, Rock Island.

Discussion, John P. Coughlin, Chicago.

10. The Cancer Outlook—Mr. Frederick L. Hoffman, Consulting Statistician, Prudential Life Insurance Company, Newark, N. J. (By invitation.)

11. Status of Milk Pasteurization in Illinois—I. D. Rawlings, Director, Department of Public Health, State of Illinois, Springfield, and Lewis Shere, Milk Bacteriologist, Department of Public Health.

12. Dangers of Iodine in Treatment of Goiter—James H. Hutton, Chicago.

Discussion, Nathan S. Davis, III, Chicago.

RULES GOVERNING THE PRESENTATION OF PAPERS.

All papers read by members shall be limited to twenty minutes and remarks in discussion to five minutes, floor privilege being allowed only once for the discussion of any one subject.

All papers read before the Society or any of its Sections shall become the property of the Society. Each paper shall be deposited with the Secretary of the Section, when read, and the presentation of a paper to the Illinois State Medical Society shall be considered tantamount to the assurance on the part of the writer that such paper has not already appeared and shall not appear in medical print before it has been published in the Illinois Medical Journal.

A paper not heard in its scheduled turn shall be held subject to the call of the Chairman of the Section at the end of that regular Session, if time permits, or as an alternative at the end of the program.

All discussions shall be confined strictly to the subject in hand.

No paper shall appear in the printed transactions of the meeting, unless read in full or in abstract.

EXHIBITORS AT THE MEETING.

American Medical Association, "Hygeia," Chicago.

Harrower Laboratories, Inc., Glendale, California.

H. G. Fischer Company, Chicago.

Hettinger Brothers Company, St. Louis.

White-Haines Optical Company, Columbus, O.

Abbott Laboratories, North Chicago, Illinois.

Ciba Company, New York City.

McIntosh Electrical Corporation, Chicago.

Cameron Surgical Specialty Company, Chicago.

Horlicks Malted Milk Corporation, Racine, Wis.

Standard Oil Company of New Jersey, New York City.

Mead Johnson Company, Evansville, Ind.

Victor X-ray Corporation, Chicago.

Fellows Medical Manufacturing Company, New York City.

Huston Brothers Company, Chicago.

C. V. Mosby Company, St. Louis.

Deshell Laboratories, Chicago.

Medical Protective Company, Ft. Wayne, Ind.

Chas. H. Phillips Company, New York City.

V. Mueller & Company, Chicago.

A. S. Aloe Company, St. Louis.

De Puy Manufacturing Company, Warsaw, Indiana.

Laboratory Products Company, Cleveland, O.

Merrell-Soule Company, Syracuse, N. Y.

W. B. Saunders Company, Philadelphia, Pa.

Sutliff & Case Company, Peoria, Illinois.

Lavoris Chemical Company, Minneapolis.

Hanovia Chemical & Mfg. Company, Newark, N. J.

Swan-Myers Company, Indianapolis.

Sharp & Smith, Chicago.

W. A. Baum Company, New York City.

E. R. Squibb & Sons, New York City.

In addition to these, there will be scientific and pathological exhibits of unusual interest to all physicians.

NOTES ON EXHIBITS

The American Medical Association exhibit will feature "HYGEIA" their Journal of Individual and Community Health. This most commendable Journal has rapidly come to the front as the leading health magazine, and it should by all means, be in the office of every physician. An opportunity will be given to those who have not yet subscribed, to do so and show their interest in Health, and Community problems. We advise you to chain it to your table, unless you want your patients to walk off with it. Other publications from the American Medical Association Press will also be exhibited, and those members of the Illinois State Medical Society in good standing who have not yet affiliated, can become Fellows of the American Medical Association.

Abbott Laboratories of North Chicago, will have an interesting display in booth number 3. Butesin Picrate Ointment, presents the combined features of anesthesia and antiseptic action, in the same chemical. It is of unusual service in the treatment of burns, leg ulcers, and as a general surgical dressing. Digipoten repre-

sents "digitalis at its best." Parresined Lace Mesh Surgical Dressing will warrant much consideration. It has the approval of the Surgeon's office, of the United States Army. They will have on display many of their old reliable preparations, as well as many newer ones, which will appeal to the Medical and Surgical professions represented at the meeting.

Huston Brothers Company, of Chicago will exhibit in spaces number 22 and 23. They have been exhibitors at our meetings for the past twenty years. Their exhibit this year will not only include samples of the latest patterns of the usual full line of staple instruments and appliances, but also a big variety of patterns of entirely new instruments, many of their own invention. Among these are a new type of stethoscope, by which, it is claimed, the foetal heart tone is heard as clear as the ticking of a watch, a new rectal irrigator, a tonsil snare which operates without the use of a wire, new types of surgical needles eliminating many of the disadvantages of other types, a new type of vaginal speculum, and a new line of obstetrical instruments. They will also display a new type of spectacles arranged so that illumination can be given in direct line with the vision.

The value of Transillumination, Direct Illumination, Accurate Diagnosis, Simplified Technique, Cauterization and improved Instrumentation will be demonstrated as applied to all phases of major and minor diagnostic, operative and therapeutic procedure at the exhibit of Cameron's Surgical Specialty Company, Chicago, at space number 11, each day during the meeting. No progressive member of the profession can afford to overlook this demonstration.

The Merrell-Soule Company of Syracuse, N. Y., will exhibit its group of dehydrated milk adaptations, KLIM, powdered Protein Milk, Powdered Lactic Acid Whole Milk, and its new carbohydrate, Vi-Mal-Dex. Representatives will be at the exhibit at all times prepared to discuss the merits of these preparations at all times. Ice cold reliquified KLIM and KLIM wafers will be served at the exhibit and souvenir boxes of the wafers will be given to all Physicians and Physicians' wives desiring them.

H. G. Fischer & Company, Inc., of Chicago will have a splendid, complete exhibit of the latest developments in Electro-physiotherapeutic equipment in booth 2. Special attention will be called to their newest and different diathermy machines, and their new portable diathermy units. They will also exhibit the latest types of Quartz lamp apparatus, Radiant therapy lamps, wave generators, and many types of electrodes, and applicators for the various electrical modalities.

Sharp & Smith of Chicago will occupy spaces 42, 43 and 44. Their exhibit will consist of a full and complete line of the latest and most improved models of surgeon's instruments and appliances, and they cordially invite all physicians and surgeons in attendance to inspect their products. They have many new items for this occasion, which for lack of space, we are unable to mention in this brief announcement.

The Harrower Laboratory, Inc., Glendale, California, has an interesting exhibit of all of their ENDOCRINE

preparations, including a new line of POLYCRINE and MONOCRINES for intramuscular injection in ENDOCRINE disorders. Physicians are cordially invited to visit the HARROWER booth where Mr. E. J. Smith will be "At your service."

Sutliff & Case Company, of Peoria will have in space Number 37, a full and complete line of Pharmaceuticals of their own manufacture, surgical instruments, and office equipment. They wish to meet their old friends and make many new ones at the meeting.

The Deshell Laboratories will exhibit their well known products, Petrolagar plain, and Petrolagar with phenolphthalein. Petrolagar is an emulsification of mineral oil with agar, indicated for use as an intestinal lubricant. An interesting feature of the exhibit will be the data on the value and application of "habit time" in the treatment of constipation, and the function played by Petrolagar in instigating the normal habit time in the constipated colon.

The C. V. Mosby Company, Medical Publishers of St. Louis, will exhibit their leading publications in booth No. 24. Among the new books in their display will be the new edition of Sutton, "Diseases of the Skin"; Hirschman, "Diseases of the Rectum"; Orr, "Amputations"; Adams, "Asthma"; Ryall, "Operative Cystoscopy"; Beattie-Dickson, "Pathology"; Duke, "Allergy"; Graham, "Empyema Thoracis"; Copher, "Methods in Surgery" and Koehler-Ehrenfest, "Puerperal Fever."

In space Number 26, the Medical Protective Company of Ft. Wayne will have in attendance several of its representatives to confer with its contract holders, or any other members of the profession, relative to the liabilities accruing to the profession, or to explain any point in the service and method of the Company. Any physician is welcome to propound any questions upon the subject of malpractice insurance that he may desire.

Hettinger Brothers of St. Louis will occupy space number 3. They will exhibit the Wappler Portable Telatherm, and other Diathermia appliances. They will also have a full line of surgical instruments, office supplies, etc.

An extensive collection of instruments and apparatus of their own manufacture as well as many important new items from foreign medical centers will be demonstrated by V. Mueller & Co., in spaces number 28 and 29. Among the domestic items are Friend's Liver forceps, De Lees Obstetric and Caesarean Section instruments, miniature headlights, etc. Foreign items are new Trephining sets, several new Stomach and Intestinal Clamps, new bone banding and metal suture sets, etc.

The Chas. H. Phillips Company will exhibit its standard products in space number 27; Phillips Milk of Magnesia, Phospho-muriate of Quinine, Digestible Cocoa Compound and its new dentrifice, Phillips' Dental Magnesia, a superior tooth paste based upon Phillips' milk of magnesia. Your inspection of these products is cordially invited.

The McIntosh Electrical Corporation of Chicago, will have in booths 9 and 10 their latest models of

apparatus, including the Biolite, the new infra-red Ray Generator. With 46 years' accumulated experience in the manufacture of Electro-Physiotherapy equipment.

The W. B. Saunders Company, Medical Publishers will be represented in space number 34. They will have a number of recent works, and new editions of other standard books. Among those to be shown at the meeting are, "Young's Urology," in two volumes; Lillienthal's Thoracic Surgery, two volumes; Moynihan's Abdominal Surgery, in two volumes; Bickham's Surgery, in six volumes; Abt's Pediatrics, in eight volumes; Cabot on the Heart, Anders and Boston, "Diagnosis." You are given a most courteous invitation to visit the booth, and look these works over, and see the general line on display.

The Ciba Company, of New York City will exhibit their well known products in booth number 6. Although they will have a large number of their products on exhibition, special emphasis might be made on a few of these preparations. Digifoline "Ciba," Dial "Ciba," Lipiodine "Ciba," Coramine "Ciba," Agomensin "Ciba," and Sistomensin "Ciba" will be of interest to the profession. They will be glad to greet their friends at the meeting and explain their products.

The Hanovia Chemical and Manufacturing Company will greet their friends at booths number 39 and 40. They will exhibit their standard Quartz lamps, THE ALPINE SUN, KROMAYER AND LUXOR, together with an addition to the family, a radiant heat lamp, the "SOLLUX," both the floor stand and desk types. They will also feature a new self-suspending Portable Unit, combination type, a Unit with many unique features that will be of particular interest to the physician. Experienced members of their Staff will be on hand and give any explanations that may be desired, and give literature their products.

Horlicks Malted Milk Corporation of Racine, Wisconsin, will exhibit at booth number 14, the manufacturers of Horlicks, the original Malted Milk are planning to present valuable and interesting facts, demonstrating its unique value as a modified food. "Horlick's" is said to be far more nutritious and digestible than plain milk and therefore, of special service in typhoid and other wasting diseases, as well as for infants, expectant and nursing mothers, convalescents, and the undernourished.

Roentgenologists and Physical Therapists will find the exhibit of the Victor X-Ray Corporation very interesting and well worth visiting. Several of the latest developments of the Engineering and Research Laboratories will be featured.

Three recent additions to the Victor Line of X-ray equipment will be of special interest; the Stabilized X-Ray Timer (especially adapted for "flash" radiography), the Vertical Stereo-Radiographic Unit with Automatic Tube Shift and the Motor-Drive Roentgen Table—all major contributions to the advancement of Roentgenology. Every physician observing the trend of physical therapeutics should take this opportunity to look over the Victor line of Diathermy apparatus (both medical and surgical), also the distinctive features in Victor Ultra-Violet Quartz lamps, the Wanz Mul-

tipple Wave Generator for galvanic and sinusoidal therapy, and Victor Phototherapy Lamps. They are all designed according to the most exacting requirements of the physician, and in view of approved physical therapeutic methods.

The White-Haines Optical Company of Columbus, Ohio, will have an exhibit of scientific instruments such as the Slit Lamp, Clason Visual Acuity Meter, Ophthalmoscopes, Retinoscopes, Ophthalmic Lenses, such as Softlite, Punktals and a complete exhibit on a general optical line. This exhibit should be of unusual interest to all eye specialists, as well as to physicians in general, and special practice, as many of the appliances will aid physicians in general diagnostic work.

Swan-Myers Company, of Indianapolis will in their exhibit, feature the educational side of the treatment of hay fever with pollen extracts. A new skin test will be shown, which makes it easy for the physician who handles only a small number of hay fever cases each year, to give his patient the best service obtainable. The new ampoules of 50% dextrose solution will be on display. A full assortment of the mercurials will be included. Newer products which have a particular advantage over the older ones, will be a feature of the exhibit.

The Standard Oil Company of New Jersey, will feature their "Nujol," "Cream of Nujol," and "Mixtol." Cream of Nujol is a new product, is a white emulsion with an agar combination and is a favorite with children and adults with an aversion to oil. Nujol is a standard, reliable product which is known to all the profession. Mistol is rapidly gaining in popularity with the progressive Nose and Throat men in spite of the fact that it is not even advertised in medical journals, its only presentation occurs in a "sample way" at professional meetings. The Nujol Laboratories will be represented by Dr. E. F. Hitchcock, M.D., Ph.D., who is well known in this capacity to a large and constantly extending circle of professional friends.

The De Puy Manufacturing Company, of Warsaw, Indiana, will exhibit their line of De Puy X-Ray Splints. The exhibit will be in charge of their Illinois representative, Mr. Bates, who will be pleased to meet all members and visitors to the meeting, and show the new features that have been recently added. The De Puy product is the result of doing one thing and doing it well, for a period of 25 years. Their slogan is, "We have a splint for every splint requirement."

Mellins Food Company will occupy space number six. Nutrition is always a subject worthy of serious discussion and there are many details in relation to the use of Mellin's Food, which if thoroughly understood by physicians, would assist them materially in preparing nourishment for children, and for adults. It is the purpose of the representatives in charge of the Mellins Food exhibit to make these details clear to all physicians who are interested, and to whom a cordial invitation is extended to visit the exhibit.

The Fellows Medical Manufacturing Company, will exhibit their "Compound Syrup of Hypophosphites" Fellows and "Laxative Tablets" Fellows. Their repre-

sentative will be glad to give any information that may be desired from physicians, relative to their products.

The products to be featured by E. R. Squibb & Sons, will include Insulin, Arsenicals, and Biologicals. The Authorized Scarlet Fever Products produced under the patents of Drs. George F. and Gladys Dick will be of especial interest. Representatives of the house of Squibb in attendance at the booth, will be pleased to welcome all visitors and will take pleasure in answering questions and explaining merits of the various products at booth number eight.

Don't fail to visit the A. S. Aloe exhibit. The newest instruments, up to date equipment for the physician's office, and a high grade line of Physio-Therapy equipment will be shown. They will show a new importation of German instruments coming direct from their factory in Germany; the New Super-Diatherm, and the Finsen Deep Therapy Lamp. They will have on display QUALITY merchandise, at the lowest possible prices, and their 50% sale that is held annually by them at the Annual Meeting of this Society.

The Baumanometer exhibit will be in booth 17. How the Lay Public has reacted to the series of advertisements on blood pressure published in *HYGEIA* by W. A. Baum Company, Inc., will be explained, and the results from this effort to emphasize the importance of health examinations, the danger of worry and self treatment and the folly of the patient who makes blood pressure a fad will be discussed with visitors to the exhibit. A new development of importance will be shown for the first time.

UNIVERSITY OF ILLINOIS EXHIBIT

There will be several interesting exhibits shown by the University of Illinois at the Champaign-Urbana meeting.

The Research Laboratory, under the direction of Dr. Henry B. Ward, will show some interesting parasitology specimens. Among these are:

Two mounts of feces showing different worm eggs.

Three microscopic specimens of intestinal protozoa; *Balantidium coli*; *Leishmania donovani*; *Endamoeba histolytica*.

One intestinal fluke-*Clonorchis sinensis*.

Two microscopic slides showing tapeworm and eggs; *Diphyllobothrium latum*; *Taenia echinococcus*.

Four microscopic slides showing intestinal Nematoda; American hookworm *to*to; *Trichuris trichiura*; European hookworm; Hookworm larvae in migration below skin.

Other very interesting specimens will be shown by various departments of the University, including the new element, *Illinium*.

RADIOLOGICAL MEETING

Tuesday, May 18, 1926, 1:30 P. M.

Knights of Pythias Hall, Champaign

*Central Illinois Radiological Society, Chicago,
Roentgen Society—Joint Meeting*

Central Illinois Radiological Society.

Harold Swanberg, M.D., President, Quincy.
W. Bain, M.D., Vice-President, Springfield.
H. C. Kariher, M.D., Secretary-Treasurer,
Champaign.

Chicago Roentgen Society.

E. L. Jenkinson, M.D., President.
I. S. Trostler, M.D., Vice-President.
E. S. Blaine, M.D., Secretary-Treasurer.

PROGRAM

1. The X-Ray Treatment of Carbuncle—
H. A. Chapin, M.D., Jacksonville.

2. The Reaction of the Pancreas to X-Rays
—A. C. Ivy, M.D., and B. H. Orndoff, M.D.,
Chicago.

Discussion, I. S. Trostler, M.D., Chicago.

3. Focal Infection—E. G. Samuel, M.D.,
New Orleans. (By invitation.)

Discussion, H. W. Grote, M.D., Bloomington.

4. Newer Phases of Cholecystography and
Their Interpretations—Sherwood Moore, M.D.,
St. Louis. (By invitation.)

Discussion, H. B. Magee, M.D., Peoria.

5. Non-Inflammatory Disease in the Region
of the Hip Joint—E. G. C. Williams, M.D., Dan-
ville.

Discussion, B. C. Cushway, M.D., Chicago.

6. X-ray Diagnosis of Appendicitis with
Special Reference to Peristalsis—H. J. Hubeny,
M.D., Chicago.

Discussion, P. B. Goodwin, M.D., Peoria.

Every ethical physician is cordially invited to attend this meeting. Immediately following the scientific program there will be a short but very important business meeting, and every Radiologist in Illinois is especially urged to be present. There will be a Radiological Dinner at 6 p. m. on Tuesday, at the Inman Hotel. Tickets can be procured from any officer of the Society, or at the Registration Desk. Every Radiologist and all those interested in Radiology are invited to attend the Dinner.

DR. JABEZ NORTH JACKSON, PRESI-
DENT-ELECT OF A. M. A., WILL AD-
DRESS THE STATE MEETING

At the annual meeting of the American Medical Association at Dallas, April 19-23, 1926, Dr. Jackson was unanimously elected to the office of President-Elect of the A. M. A. His name was the only one presented to the House of Delegates as a candidate for this office, which is an unusual honor. Dr. Jackson has consented to give a paper in the Section on Surgery Tuesday afternoon, May 18, and we feel highly honored that he will make his first appearance before a State Medical Society at our meeting, since assuming the office of President-Elect. We are sure that his many friends among the medical profession will be glad to greet him at the Champaign-Urbana Session.

BANQUET FOR OUR DISTINGUISHED
GUESTS

In honor of the President and President-Elect of the American Medical Association a complimentary banquet will be held at the Elks Club in Champaign on Tuesday evening, May 18, at six P. M. Members of the House of Delegates, members of the Society and others who wish to attend may procure tickets from the Committee on Arrangements or at the Registration booth. The charge is \$1.25 per plate. We expect to have present also at the banquet Doctor David Kinley, President of the University of Illinois.

It would be well for those wishing to attend the banquet to procure tickets as early as possible on account of the fact that the number of plates is limited.

FOR OUR EXHIBITORS

We have had many requests from our exhibitors at the Champaign-Urbana Meeting to refer them to a transfer company equipped to receive the exhibits at Champaign, care for them after they are received, and place them on the floor of the Exhibit Hall on the day before the meeting opens. The Committee on Arrangements has selected the Chester & O'Byrne Transfer Company, 63 Chester Street, Champaign, Illinois. You may ship your exhibit to that company, and notify them of the shipment, so that your orders will be carried out according to your own wishes.

ILLINOIS MEDICAL LABORATORY ASSOCIATION

Tuesday, May 18, 1926.

UNIVERSITY OF ILLINOIS, URBANA.

All persons interested in laboratory work pertaining to bacteriology or the medical sciences are invited, whether members of the association or not.

12:45 P. M.—Luncheon

Southern Tea Room, Green Street, near the campus.

Followed by business and election of officers.

2:30 P. M.—Visits to Laboratories on Campus

The program of scientific papers will be omitted, allowing the entire time for practical demonstrations and discussions on laboratory procedures and technique in the various laboratories on the campus.

1—Department of Bacteriology

Chemistry Building; Prof. F. W. Tanner.

This is an especially well equipped laboratory for the teaching of general Bacteriology, both elementary and advanced. Visitors will find the large collection of micro-organisms interesting, as well as the special equipment of the laboratory.

2—State Water Survey

Chemistry Building; Prof. A. M. Buswell.

The special equipment for the analysis of water, both bacterial and chemical, will attract those persons interested in water analysis.

3—Department of Milk Bacteriology

Dairy Building; Prof. M. J. Prucha.

Visiting laboratory workers should not miss this department. The routine examinations of milk are intermingled with interesting variations, such as the length of time that typhoid bacilli can live in ice cream.

4—Eugenics Laboratory

Prof. Elmer Roberts

Prof. Roberts is working out some valuable material on the inheritance of immunity, and if so, why? Visitors that find the discussion of this subject too deep, will at least be interested in the hairless rats.

5—Laboratory of Animal Pathology

Prof. Robert Graham

A large number of animal diseases afflict man also. Visitors will find much of interest in this

laboratory, especially in connection with Rabies, Botulism, Tuberculosis and many other conditions. It is to be noted that this is the only laboratory in the country licensed by the United States Public Health Service to make Botulinus Antitoxin.

ILLINOIS TRACTION SYSTEM WILL GIVE REDUCED RATES

The Illinois Traction System which serves Central Illinois as well as St. Louis, has consented to issue certificates to all those intending to use their lines to travel to the Champaign-Urbana Meeting, and these, when properly validated at the Meeting, will permit a half fare for the return trip. This system maintains first class passenger service between many of our Central Illinois Centers, such as Peoria, Bloomington, Springfield, Decatur, Champaign, Urbana, Danville, and St. Louis, Mo. If you expect to use this system when going to the meeting, ask the agent for a certificate when buying a one way ticket to Champaign, Urbana, have it properly signed, and dated. Present it when registering at the meeting, and it will be returned to you properly validated, so that you will get the return reduction of one-half fare.

RENDER UNTO MEDICINE THAT WHICH IS MEDICINE'S

JUDGE MARCUS KAVANAGH BLAZES A TRAIL IN
THE RIGHT DIRECTION

A wholly disinterested sanity test, the like of which the medical profession urges in criminal cases where alienists are requisite, has been put through the Illinois courts.

For this, thanks from Macedonia must be given to Judge Marcus Kavanagh. This jurist asked the Chicago Medical Society to appoint three alienists to serve in the Costello case. Precedent is set. Let it be hoped that in the future it will be followed. Commenting upon Judge Kavanagh's action on its issue of March 12, 1926, and speaking editorially the *Chicago Journal* says:

Judge Kavanagh established precedent which it is fervently hoped will become fixed policy. Three alienists, Drs. Charles Reed, Ralph Hammill and Lewis Pollock examined the condemned murderer, Raymond Costello, seeking to escape

the rope on a plea of insanity, and testified to his sanity. The sentence of death stands.

In commending the act of Judge Kavanagh, and in saying that the Chicago Medical Society deserves with him the thanks of the public, this newspaper does not in the slightest measure reflect upon other alienists of good standing in the community and in their profession, who testified on either side in this case. But Judge Kavanagh's innovation is of such importance to society and apparently may be developed with such readiness into a permanent policy, thereby avoiding confusion and evading injustice in the future, that THE JOURNAL would be derelict to its duty if it did not voice approval of the act.

Since then Costello has been hanged.

This favorable result in insanity procedure was brought about by a resolution passed by the council of the Illinois State Medical Society, September 9, 1925. The resolution mentioned received world wide publicity in the public press and medical publications. The resolution is as follows:

WHEREAS, One of the great responsibilities placed on the State of Illinois is the care, treatment, hospitalization and protection of insane and others in this state affected with like mental incapacity, and to protect normal persons from malfeasance from such persons, especially through the abuse of expert witnesses, a subject that notwithstanding the marked progress of psychiatry has not been given adequate consideration in this state; and

WHEREAS, It is desirable to make necessary revision of the laws in this state on the subject, and also to make provision for properly discharging this great responsibility of the state, and attempting a solution of the difficulties arising from the problem of the criminal insane in this state; therefore, be it

RESOLVED By the Council of the Illinois State Medical Society duly assembled and sitting in quorum in the City of Chicago on Wednesday, September 9, 1925, that the present method of handling expert witnesses in criminal cases involving the question of insanity or mental incapacity is not conducive to the best interests either of the accused or of the community at large; that a law shall be made to modify the current custom of permitting such witnesses to be employed at the discretion of interested parties and that the law shall vest the power of

such selection in the hands of the court and such witnesses shall receive their compensation from state funds, thus making their employment a matter of judicial rather than of personal appeal.

A MEDICAL AND DENTAL ARTS BUILDING IN CHICAGO

DOCTOR, HERE IS YOUR INVESTMENT AND SOCIAL CHANCE

THE MEDICAL AND DENTAL ARTS CLUB HAS A PLACE FOR YOU TO PROFIT

In the new Medical and Dental Arts club will be combined a professional and social haven, and a most wise investment for Chicago's 10,000 or 12,000 doctors, dentists and members of allied professions.

Under one roof, in a 23-story building, at the southeast corner of Wabash avenue and Lake street, owned and managed by the professions represented, will be housed every correlative activity.

Professional men are notoriously easy "lambs" when it comes to investments. Here is an opportunity built on the land itself, and carried out by the men whose money is used, to secure a steady, guaranteed revenue.

There is no gamble in "loop" real estate in Chicago. The site chosen for the Medical and Dental Arts club lies between the "loop" and the new Wacker Drive. From sale of memberships to date enough money has been secured to make possible the purchase of a site of 12,000 feet, and the negotiation of a mortgage. On this lien conditions are such that as soon as the building is completed and occupied, revenue therefrom will pay the running expenses of the building and within fifteen years time permit the retirement of the bonds. This will leave the building and the land and the revenues the property of the club members.

On this site of 100x120 frontage the first mortgage bond floated is for \$3,100,000.

Though starting first as a purely social organization, the board of directors of the Medical and Dental Arts club has broadened its scope into an institution of fundamental value to the profession from a business as well as social and professional standpoint. The obtaining of the site was in itself a rare opportunity.

Work will begin July 1 on the building and

will be completed by May 1, 1927. Plans are being developed by D. H. Burnham & Co.

This building is accessible by all means of transportation in the city and from every direction. It is one block from Marshall Field & Co.'s stores; one block from Michigan Boulevard, one block from Wacker Drive and one-half block from an elevated railway station. Surface lines are on Wabash avenue as are also omnibuses.

Floor plans at present are: ground and first three other floors, stores and sales rooms preferably for medical and dental supply houses; fifth and sixth floors, two-story auditorium with a seating capacity of 900, abutted by mezzanine floors with smaller meeting rooms accommodating from 100 to 150 persons; also office rooms for the Chicago Medical Society, the Chicago Dental Society and the American Dental association headquarters. Although the Chicago Medical society has been in existence for 75 years, and the Chicago Dental Society for 50 years, and although these organizations are the largest of their kind in the world, neither has or ever has had, a permanent home, but has met always in rented quarters. Also lacking is a permanent place for the preservation of records. Old minute books covering the early days of the Chicago Medical Society are in charge of the Chicago Historical Society as the Chicago Medical Society has no place in which to keep them. The Chicago Dental Society is in an equally uncertain state. Besides these parent societies similar conditions maintain with a large number of special professional organizations such as the Surgical Society; Society of Internal Medicine; the Industrial Surgeons; the Anaesthetists; the Pediatric, Orthopedic, Ophthalmological and other specialistic groups and similar specialistic groups in dentistry. There are at least a half hundred such bodies. In them about 4,000 of Chicago's 6,000 practicing physicians belong to the Chicago Medical Society and of about 4,000 dentists about 2,500 are members of Chicago Dental Society.

Floors eight to fourteen, sales rooms and commercial offices such as those firms that make of Chicago the leading dental and medical supply center for the United States. These comprise those 750 firms, according to the classified telephone directory, that make and sell products and appliances needed in medicine and dentistry.

In the group are surgical instruments and dressings; pharmaceutical products, serums vaccines, office equipment and appliances, office furniture, crutches, braces, trusses, artificial arms and legs, dental supplies equipment and furniture. If made into one great central market time would be saved immensely for busy professional men.

Floors sixteen to twenty, professional offices.

Floors twenty-one and twenty-two, bed rooms for out of town members, thus contributing the essential club feature carried out further in the two upper floors by wash rooms, lounge, smoking and billiard rooms, check rooms and offices. The top floor will have, too, an exceptionally attractive dining room for daily use, for professional dinners and for council and especial society affairs, a group of smaller dining rooms.

This club feature is one for which there is great need among the medical and dental professions. It will be protective, economical and aid in breaking down the professional man's only too common isolation from his fellow man. It is the first step towards the now lacking social life in the routine of a busy doctor. The Medical and Dental Arts Club is a voluntary organization with membership limited to dentists and doctors in good standing with the Chicago Medical Society and the Chicago Dental Society. Aiming to be a holding corporation it is financing its plans by the sale of memberships to put up and operate a building that will be an institution for the common good, and great mutual welfare.

Here is your chance, doctor, to become a partner in a splendid investment. Do not pass it up.

SOCIAL LIFE OF THAT MUCH ABUSED SECTION OF SOCIETY, THE PHYSI- CIAN'S FAMILY. A MEDICAL ARTS CLUB AT CHICAGO

Chicago follows the lead of other cities in its proposed Medical and Dental Arts club. In this respect the city that is acknowledgedly the medical center of the world is undoubtedly out of step.

Doctors who attended the recent convention at Dallas, Tex., of the American Medical Association, need no conversion to the plan. They have had recent and comforting experience of the convenience and economy of central buildings of this sort dedicated to the social, commercial and scientific uses of medicine and the

allied interests. Houston, Galveston, San Antonio and Ft. Worth, Texas have similar organizations, and they are found both popular and profitable.

The Medical and Dental Arts club of Chicago will go a step further than the institutions that have preceded. This club will feature social life for that much abused section of society, the physician's family, as well as for his relatives and out of town friends. As a community center for scientific expediency, with professional comfort combined, and "dividends on the side" the plan formulated by the Medical and Dental Arts club of Chicago is difficult to surpass. It is the chance of the decade for every ethical physician and dentist in the state of Illinois and should be sponsored fully and freely.

Current membership in this club is getting in "on the ground floor" in the safest, surest and most satisfying opportunity that has been offered physicians and dentists within the memory of the writer.

There is not a section of this club that is not requisite. There is not a section of this club for which already the men and the organizations sponsoring it have not already noted a thousand and one uses.

Elsewhere in the editorial section of this issue will be found a detailed description of the proposed Medical and Dental Arts Club of Chicago.

PERSONS ARE AS GOOD AS THEIR FEET NEGLECT OF COMMON FOOT AILMENTS OF THE PART OF THE MEDICAL PROFESSION HAS OPENED FERTILE FIELD FOR THE QUACK

Universal attempts to "put the best foot forward" are accentuated by styles in women's clothes and a corresponding influx of patients with foot ailments in the offices of hundreds of physicians. Feet hit one in the eye as never before. Short skirts and pain have done the work.

Unfortunately only too many adults are in the position of the woman who said she could not put the best foot forward because each foot was "worse than the other."

This is a serious subject for physicians, from several standpoints.

Ill-fitting shoes cause many ills and afflictions of otherwise obscure origin, as a consequence of serious foot deformity.

Fischer attributes the frequency of deform-

ities of the foot in the western nations to six causes:

1. Premature teaching of children to walk.
2. Training to turn the toes out.
3. Outward rotation of the foot.
4. Unphysiologic manner of walking.
5. Unnecessary and excessive standing.
6. Incorrect way in which shoes are made.

Boorstein in the Archives of Pediatrics, for March, 1925, says that the term weak foot, or flat foot is applied to a faulty position of the foot, impairing its weight-bearing strength.

In children weak feet and foot strain should be treated immediately when encountered. They should be taught to turn the toes in slightly. Contracted tendo Achilles, rickets, excessive weight and general weakness are the predisposing causes. Direct cause is disproportion between the strength of the foot, and the weight and strain to which it is subjected. Deformity, tired feeling when walking and occasional pain are symptoms of weak feet in children. From infancy much attention should be paid to fitting shoes, and securing the proper standing posture—with feet parallel and with the toes turned in slightly. Causative factors, such as knock knees should be remedied so as to prevent recurrence. Flexible weak feet are treated by strappings and exercises, acute foot strain should be relieved by rest and by adhesive plaster strappings, and the short tendo Achilles should be lengthened either by stretching or by open operation. A metal support of scientific construction may be needed. This however should not be regarded as a permanency.

The general practitioner is forced these days to give more than former attention to the feet of his patients. This has been disregarded for too long and as a consequence charlatans are actually crippling many persons by their "patent" devices and many a firm is reaping rare harvest by its "cure-all" shoes. Bone grafting, tendon transplanting and fracture work occupy the time of orthopedic surgeons and as a result the commoner foot ailments go by the board. One or more foot defects were found in one out of every five recruits who came up before the Medical Examiners during the war.

Few realize that 25 per cent of the bones of the body are in the feet. There are 52 bones in

the feet, or 56 counting the sesamoids. This bony framework held together by ligaments and strengthened by muscles and fascia is one of the important sections of the human anatomy. Yet at least 75 per cent of the persons one passes in the street have something wrong with this part of them.

Arch supports and lay surgical devices are the mecca to which these persons pay tribute. Let a physician go incognito to a shoe store selling "patent shoes" and see what happens to him. Proper fitting shoes will do almost as much to correct foot defects as anything else. But it is a certainty that few hastily trained salesmen and saleswomen in shoe shops with a stand-pat line of chatter are qualified to decide what is proper. Yet they do!

If a foot needs attention it needs expert attention.

A little personal anecdote will help. A physician sent his wife into a store selling a much advertised brand of arch-support. The clerk had her sit down and felt of her foot as gravely as a physician examining an obstetrical case. By the time he had finished with her, this woman, who had listened patiently, though impatient at the crowd that came gradually around them, reached for her old shoe.

"Have I all that wrong with my feet," she asked.

The clerk said, "You certainly have."

"Are you sure?"

"Positively."

"Then this," said the doctor's wife, "this is no place for me. I belong in an orthopedic clinic and there I'm going as fast as a cab can take me."

She went away like a shot, leaving the clerk dumbfounded and the crowd agape. At her husband's office she told her tale of woe.

"Get your shoes big enough and you can walk," he said.

But that wasn't all. She had her feet X-rayed and examined. She did not have any of the things wrong that the clerk had said she did but she would have had a good chance of getting them if she had followed his advice.

Here is one instance where the woman won. But that section of that store does a land-office business. There were suffering suckers all around buying those supports — fat, thin, old,

young—all the same style of corrective. Boy, page Peruna and Lydia P.!

A short wide foot needs a short wide shoe. A long narrow foot needs a long narrow shoe. Yet only this week the writer sat beside a woman with a foot almost exactly square who was trying to force that foot into a shoe that was built like a ruler because the clerk had been told to "fit 'em long and narrow." A too-short shoe will cause bunions, crumpled and hammer toes and hallux valgus, spreading of the metatarsal shafts, anterior metatarsalgia, flat feet, shortened tendo Achilles and hundreds of other similar troubles to say nothing of defects of hips, knees, ankles and not the least of all of disposition and nervous reflexes. Fit the foot, not the idea should be the rule.

A freak shoe is a crime. Shoes with an inwardly twisted foot,—that is with the front of the shoe swung inward from the longitudinal axis of the body is a freak. The foot swings straight forward and it must be remembered that the shoe is a housing for the foot.

The midtarsal and tarso metatarsal joints are not capable of any great extension of motion but are simply shock absorbers. Shod in a shoe without a shank, this portion of a foot comes down under a load and meets a surface from which it drops away as there is nothing upon which the mid-foot may rest. If there is no heel as in a tennis shoe, moccasin or sneaker, the ground furnishes this surface. A foot does not need to be held up but it must have a surface upon which it can rest. A stout steel shank is a requisite for a bootheel and it must reach from the front of the heel forward to where the tread rests upon the floor.

ALUMNI, CLASS AND FRATERNITY BANQUETS

Those wishing to arrange for dinners at the Champaign-Urbana Meeting May 18 to 21, 1926, should get in touch with the Committee on Arrangements, Dr. Earl D. Wise, Chairman, at Champaign, so that definite arrangements can be made as early as possible. The program is well filled up for the meeting, but special arrangements can be made for banquets to be held Wednesday noon, or Wednesday evening.

SHALL WE HAVE A FEDERAL DEPARTMENT OF EDUCATION? IF YOU GIVE THE BUREAUCRATS THE CHILDREN, YOU MIGHT JUST AS WELL GIVE THEM EVERYTHING ELSE*

PROF. J. GRESHAM MACHEN

Asst. Professor of New Testament Literature and Exegesis in Princeton Theological Seminary.

PRINCETON, N. J.

I may say, if you will pardon a personal word, that the Chairman is incorrect in connecting me with Princeton University. As a matter of fact, I am connected with an institution which by some persons in certain fields is regarded as an opponent of liberty. But the charge is really very strange. I come, indeed, of a very strict sect, in company with my colleagues in the faculty of Princeton Theological Seminary; but I come of a sect that has always been devoted to the great principles of liberty. And to my mind one of the fundamental principles of liberty, which is involved in the present issue, is the principle of the right of voluntary association, the right of persons to associate themselves voluntarily for the propagation of their own views, however erroneous they may be thought to be by others, in the field of religion or in other spheres. You will find, I think, if you investigate the matter, that it is this principle of voluntary association which, strangely enough is being attacked by some persons in the name of liberty.

People seem to have a notion that a voluntary organization, religious or otherwise, is not free to exclude from the body of its official representatives those who hold principles which are diametrically opposed to its own. But as a matter of fact the principle of voluntary association, with maintenance of the purpose for which a voluntary association is formed, is at the very roots of human liberty.

But with that right of voluntary association goes insistence upon the most complete tolerance on the part of the State (which is an involuntary association) over against all other bodies, religious or social or whatever they may be, no matter how deleterious to the common welfare some men may think that they are.

It is time to come to the special subject upon

which I have been asked to speak. Shall we have a Federal Department of Education?

One bill (S. 291—H. R. 5000) has been introduced in the present Congress which looks directly to the establishment of such a department. Another bill (H. R. 4097) not only provides for the establishment of such a department, but also provides in very radical form for the principle of Federal aid to the States, laying down even very definite conditions on which that aid may be received.

Another bill (S. 1334) has been introduced, and various proposals, as you know, have been made, looking to the reorganization of the federal departments. What the ultimate relationship between these measures and the establishment of a federal department will be, we cannot now tell; but I think that it is clear that just at the present juncture, in view of the very widespread support which the proposal has received, the question of a federal department of education is very decidedly before the country.

Do we want a Federal Department of Education, or do we not? I think we do not. And I am asking your permission to tell you very briefly why.

We do not, I think, want a Federal Department of Education because such a department is in the interests of a principle of uniformity or standardization in education which, if put into practice, would be the very worst calamity into which this country could fall.

This measure cannot be understood unless it be viewed in connection with related measures, like the so-called Child Labor Amendment; or like the Sterling-Reed bill with its predecessors and its successor, which provided for Federal aid to the States and which really would have taken away what measure of States' rights we possess.

People think very loosely in these days about receiving gifts. But on the basis of some observation of the reception of gifts in the educational field, I think I may give it as my opinion that a gift, in the educational field, always has a string tied to it. That may be observed with reference to various educational foundations. They provide ostensibly, sometimes, that the liberty of the institution to which they appropriate their funds is to be maintained. But in a very few years you will find that such institutions have become completely subservient to an outside board of control. And how much more

*Address before the Sentinels of the Republic, at Washington, D. C., Jan. 12, 1926.

obviously is that the case when we are dealing with the Federal Government, an agency which in every possible way is encroaching upon the power of the States. Federal aid in education inevitably means federal control.

But the same result will be accomplished even by the measure that we now have directly in view. The establishment of a Federal Department of Education would be a step, and a decisive step, in exactly the same direction as those measures of which we have just been speaking.

We are indeed, sometimes actually asked to believe that a Federal Department of Education is a very innocent thing, that when it is established it will not do anything, and will not ask for any funds, except funds that are already provided for various Federal agencies. But in this company I need not say that such modesty on the part of Federal departments is hardly in accordance with precedent. As a matter of fact it seems to be the fixed habit of every Federal bureau to ask for all the funds that it can get. I think that we may lay it down as a general principle that the more these bureaus get the more they want. And if we have a full-fledged Department of Education, with a Secretary at a salary of \$15,000, and with hosts of other officers below that, we shall have a great Federal agency which is certain to embrace a larger and larger number of activities. And we shall have taken the really decisive step towards centralized control. It will be an extremely difficult, if not an absolutely impossible, thing to keep a Federal Department of Education as a merely paper affair and to prevent it from so extending its activities as to secure exactly the same results in the long run as the results that were aimed at by the so-called Child Labor Amendment and by the Sterling-Reed Bill.

It is clear, therefore, that if we want to defeat this tendency in the educational field, now is the time to do it.

The reason why I am opposed to this proposal is that it represents a very ancient principle in the field of education, which, it seems to me, has been one of the chief enemies of human liberty for several thousand years—the principle, namely, that education is an affair essentially of the State, that education must be standardized for the welfare of the whole people and put under the control of government, that personal idiosyncrasies should be avoided. This principle,

of course, was enunciated in classic form in ancient Greece. It is the theory, for example, that underlies the *Republic* of Plato. But the principle was not only enunciated in theory; it was also, in some of the Greek states, put into practice. It is a very ancient thing—this notion that the children belong to the State, that their education must be provided for by the State in a way that makes for the State's welfare. But that principle, I think you will find if you examine human history, is inimical at every step to liberty; and if there is any principle that is contrary to the whole genius of the Anglo-Saxon idea in government, it seems to me that it is this principle of thoroughgoing State control in education.

Of course, we have a great many prophets of it today. I suppose it is the basic idea of Mr. H. C. Wells, in his popular *Outline of History*. The solution of the problem of the state, Mr. Wells believes, is in education; and by undertaking this problem in a more efficient way, possible because of increased ease of communication, the modern state can accomplish what the Roman Empire failed to accomplish.

I am willing to admit that in some fields standardization is an admirable thing. For example, standardization is an admirable thing in the making of Ford cars. But just because it is an admirable thing in the making of Ford cars it is a very harmful thing, I think, in the case of human beings. The reason is that a Ford car is a machine and a human being is a person. There are, indeed, a great many men in the modern world who deny the distinction. At this point we have an illustration of the utter falsity of the popular notion that philosophy has no practical effect upon the lives of the people, that it does not make any difference what a man believes in the sphere of ultimate reality. For the whole tendency that we are fighting today has underlying it a rather definite theory. Ultimately underlying it, I suppose, is the theory of the behaviorists—that the human race has at last found itself out, that it has succeeded in getting behind the scenes, that it has pulled off from human nature those tawdry trappings in which the actors formerly moved upon the human stage, that we have discovered that poetry and art and moral responsibility and freedom are delusions and that mechanism rules all. It is a mistake, we are told, to blame the criminal; the

criminal is exactly what he is obliged to be, and good people are obliged to be exactly what they are. In other words, liberty is a delusion and human beings are just somewhat complicated machines.

It is probably not a thing which has come into the consciousness of very many people, but it is a fact all the same, that present-day education to a very large extent is dominated by exactly this theory, in one form or another. It is dominated partly by persons who hold the theory consciously; but it is dominated a great deal more by persons who have not the slightest notion what the ultimate source of their ideas in the field of education really is or what the result of them will be, but who are putting them into practice all the time.

What is the result of the application of this mechanistic theory in the sphere of education? I have no hesitation for my part in saying that the result is most lamentable. The result is simply intellectual as well as moral decline. It is obvious, I think, that there has been a moral decline; but what is not always observed is that there is also today a most astonishing and most lamentable intellectual decline. Poetry is silent; art is imitative or else bizarre; and if you examine the products of present-day education you will have to search far before you find a really well-stocked mind. I am not unaware, indeed, of the advantages of modern education; I am not unaware of the fact that a larger number of persons can read and write than formerly was the case. But despite all that I am still obliged to bring against the educational tendency of the present day in the sphere of public education the charge that the product is lamentably faulty. We are told, you know, that the old-fashioned notion of really learning things is out of date. Some time ago I heard one educator, a rather well-known man, tell a company of college professors that it is a great mistake to think that the business of the college professor is to teach the student anything; the real business of the college professor, he said, is to give the students an opportunity to learn; and what the student is in college to do is to "unify his world."

I am afraid that the students make a poor business of unifying their world—for the simple reason that they have no world to unify. They have not acquired a large enough number of facts even to practice the mental business of

putting facts together; they are really being starved for want of facts. There has been an absurdly exaggerated emphasis on methodology at the expense of content in education; and the methodology that is actually advocated is based upon the false and vicious theory to which I have just referred—a false and vicious theory that destroys all the higher elements in human life.

With the persons who advocate this theory I cannot bring myself to agree. Somehow I cannot believe that the higher things in human life are delusions and that only the lower things are real. And therefore I do believe in freedom, and I do believe that persons are different from Ford cars.

What you want in a Ford car is just as little individuality as you can get. Sometimes, indeed—I may say that on the basis of my experience with a Ford car—sometimes you get entirely too much individuality. I soon learned by my own experience, before the days of self-starters, that sometimes a Ford will start and sometimes it won't, and that if it won't there is no use whatever in giving it any spiritual advice. Sometimes, in spite of what Mr. Ford can do, there has been an undue amount of individuality in the Ford car. But the *aim* of the whole activity at any rate, whatever the result may be, is to produce a thing that shall have just as little individuality as possible; the aim is that every Ford car shall be just as much like every other Ford car as it can possibly be made.

The aim of education, on the other hand, dealing, as education does, with human beings, is exactly the opposite: the aim of education is not to conform human beings to some fixed standard, but to preserve individuality, to keep human beings as much unlike one another in certain spheres as they possibly can be.

But that great aim of education, that personal, free, truly human aspect of education, can never have justice done to it under federal control. And that is the reason why the standardization of education that has already been carried on through the Federal Bureaus is deleterious. I have observed this in general: that when people talk about uniformity in education what they are really producing is not something that is uniformly high, but something that is uniformly low; they are producing a kind of education which reduces all to a dead level, which fails to understand the man who loves the

high things that most of his fellowmen do not love. This degrading tendency is furthered I fear, by the present federal activities in education, and it will be given a stupendous impetus if this federal department is formed.

Just at this point, however, there may be an objection. I have been arguing, some men will tell me, against control of education by the State. But, it will be said, we already have control of education by the State, namely by the instrumentality of the individual States of our Union; and so—thus the objection runs—the authority of a Federal Department would not differ in principle from the authority which the State Governments already possess. I have been talking about individuality; I have said something about the rights of individual parents, by implication at least. “Well now,” it will be said, “are not those rights already subject to the control of the Individual States. But if they are, is not all that is being accomplished by this Federal measure merely the transference of this authority already possessed by Government to an agency that can exercise it in a wiser and more efficient way? Does not the principle, then, remain exactly the same?”

With regard to this objection, I am perfectly willing to admit that the State Governments have, in the sphere of education, in recent years committed some very terrible sins. We need think only, for example, of the Oregon School Law, which sought to take children forcibly from their parents and place them under the despotic control of whatever superintendent of education happened to be in power in the district where the residence of the parents was found. Or we need only refer to the Nebraska Language Law (similar laws being enacted in a number of other States), which provided that no language other than English should be taught in any school, public or private, up to a certain grade—in point of fact until the children were too old ever to learn languages well. That was a law which actually made literary education a crime. Or we may think of that one of the two Lusk laws in the State of New York which provided that every teacher in all classes, public and private, formal and informal, should take out a State license and become subject to state visitation and control. These laws were blows, it seems to me, against the very vitals of liberty.

But the fate of all these measures is illus-

trative of the safeguards which we shall have if we keep this important concern of education under the control of the individual states. The Lusk laws were repealed. The Oregon school law and the Nebraska law fell before that last bulwark of our liberty, the United States Supreme Court. As Justice McReynolds said in the great decision in the Oregon school case, the child, in America, is not the mere creature of the state—a great principle which I think includes all that we are here endeavoring to maintain.

So it is to be observed that State measures—partly for reasons that have been brought out in what the previous speaker has said regarding the difficulty of securing a review of Congressional actions, and partly for other reasons—are very much more likely to be checked, if they are oppressive and against the spirit of our institutions, than are Federal measures.

Furthermore, there is a great safeguard in numbers. The beneficent fact is that there are forty-eight States in the Union. Some of them may become very bad in the sphere of education; but it is perhaps not likely that all of them will become utterly bad. Thus there is a great safeguard in the multiplicity of the States. For various reasons, then, I maintain that the principle is *not* the same when education is put under federal control as when it is placed under state control.

Personally, indeed, I am opposed to certain tendencies in the sphere of public education in the states; I am opposed to the tendency by which the public school is made to do things that parents ought to do, such as providing moral instruction and the like. I am opposed to “morality codes” in the public schools. I have examined some of them and I think that they are vicious. They are not only faulty in detail, but they are wrong in principle. They base morality upon experience, instead of upon an absolute distinction between right and wrong. Despite the good motives of their compilers, therefore, they undermine the sense which children (and all the rest of us) ought to have of the majesty of the moral law.

That is, indeed, only a matter of personal opinion. I do not know whether it comes under the principles for which the Sentinels of the Republic stand. But you can take it for what it is worth. I, for my part, think that the func-

tions of the public school ought to be diminished rather than broadened; and I believe that the public school ought to pay just a little bit of attention, perhaps, to that limited but not unimportant function which it is now almost wholly neglecting—namely, the impartation of knowledge.

Thus there are criticisms which I might make with regard to public education in the individual States. But those criticisms do not fall directly under the subject with which we are dealing here, and I am not sure whether I can claim for them the authority of the Sentinels of the Republic. In these matters, I am giving voice to my own personal opinion. But perhaps I have said enough to show at least that as citizens we have important questions to decide when we are dealing with public education in the individual States.

At any rate, in the light of what I have just said, I do maintain that the danger is very much greater when education is placed under the control of the Federal Government, than the danger which undoubtedly does prevail even now on account of a mistaken use of State authority. Federal control of education, despite what is often said, most emphatically is not the same in principle as control by the States. And so I believe that this measure which would establish a Federal Department of education ought to be defeated.

But I think that a great deal more than that ought to be done. I think that not only this particular measure ought to be defeated but the whole tendency that is represented by this measure ought to be defeated, the tendency towards a centralized standardization in education.

At this point, it is true, some persons hold up their hands in horror. "Do you mean to say," they ask us, "that we are actually going to continue to turn this important matter over to forty-eight separate and distinct states, to say nothing of the idiosyncrasies of individual parents, who want to send their children to all sorts of peculiar private schools and church schools? What utter confusion we shall have if we permit this sort of thing! Why, if we have this unlimited freedom of private schools and so on, we shall make a perfect mess of it."

Well, with regard to that, I may say that I think it is a good deal better to have confusion than it is to have death. For my part, I believe

that in the sphere of education there ought to be the most unlimited competition—competition between one state and another and competition between state school and private schools.

"But," it is said, "do you not believe in equal opportunity? Surely the Federal Government ought to help the States so that there will be equal opportunities for all the children in the whole country."

Now I am bound to say quite frankly, with regard to this matter of equal opportunity, that I am dead opposed to it. What ought you to do to a State that does not provide opportunities for its children equal to the opportunities that are provided by some other States? Ought you to tell the people of that State that it does not make any difference, because if they do not do the thing somebody else will do it for them? I think not. There ought to be unlimited competition in the sphere of education between one State and another State and between State schools and private schools. The State schools ought to be faced at every moment by the health-giving possibility of competition on the part of private schools and church schools. Only that will keep State education in a healthy way.

Of course, I understand perfectly well that competition in certain spheres has its disadvantages; and I am not going to talk about that. In some spheres it may have to be checked—we are not discussing that difficult question here. But when it comes to the sphere of the mind, I believe in absolutely unlimited competition. Anything else than that, it seems to me, will cause stagnation and death.

"But," people say, "how about efficiency?" Well, I think, if the truth must be known, that that word "efficiency" is one of the most misused words in the language. Many persons seem to suppose that the mere use of that word constitutes an argument; they seem to suppose that you ought to regard it as a sufficient argument in favor of anything whatever when that thing is said to be efficient.

I notice also another word that is used in a somewhat similar way. It is the word "sincere." It often seems to be supposed that it is an argument in favor of a person who disagrees with us, when the fact is established that "he is perfectly sincere." It seems to be supposed that the fact that he is sincere constitutes a reason why I ought to agree with the person in question.

But how absurd that is! As a matter of fact, the more sincere a man is in his advocacy of a thing that is wrong, the more opposed to him I am—not the more opposed to him in my estimate of his moral character (I may respect him personally because he is sincere), but the more opposed to the measures that he advocates. The more sincere he is in favor of something that I regard as bad, the more dangerous he is likely to be.

It is somewhat the same with regard to this matter of efficiency. Some men seem to think that it is admirable for its own sake. But surely efficiency involves doing something, and our attitude toward the efficiency all depends on whether the thing is being done is good or bad.

A man does not admire efficiency very much when the efficiency is working to his disadvantage. You have all probably heard the story about the tramp that got up to the fourth floor of the department store. The floorwalker on the fourth floor kicked him down to the third floor; and there he fell foul of the floorwalker on the third floor, who kicked him down to the second floor; and then the floorwalker on the second floor kicked him to the ground floor; and then the floorwalker on the ground floor kicked him outside. He landed on his back outside, and when he got up he remarked in great admiration: "My, what a system!"

I am unable to attain quite that measure of complete detachment that was attained by that tramp. Men want us to be overcome by admiration for a system that is working us harm. For my part, I flatly refuse. I am reminded of what Dr. Fabian Franklin said some years ago in an article in the *Yale Review*. Some persons, he said in effect, think that an objection to socialism is that it would not work. But so far as he was concerned, he said, his objection was rather that it might possibly work.

So it is with this Federal control of education. The better it works the worse it suits me; and if these people had their way—if everything could be reduced to a dead level, if everybody could be made like everybody else, if everybody came to agree with everybody else because nobody would be doing any thinking at all for himself, if all could be reduced to this harmony—do you think that the world would be a good place under those circumstances? No, my

friends. It would be a drab, miserable world, with creature comforts in it and nothing else, with men reduced to the level of the beasts, with all the higher elements of human life destroyed.

Thus I am in favor of efficiency if it is directed to a good end; but I am not in favor of efficiency if it is directed to something that is bad.

As a matter of fact, Federal Departments are not efficient, but probably the most inefficient things on the face of this planet. But if they were the most efficient agencies that history has ever seen, I should, in this field of education, be dead opposed to them. Efficiency in a good cause is good; but I am opposed to Federal efficiency in this sphere because the result of it is a thing that I regard as bad—namely, slavery. And I am not inclined to do what a great many people do today; I am not inclined to write freedom in quotation marks as though it were a sort of joke. I believe, on the contrary, that it is something that is very real. An ounce of freedom is worth a pound of efficiency. I think, too, that we may discern within the last year just the beginning of the rise of the love of liberty again in our people. I hope therefore that this measure may be defeated, and that all measures may be defeated that look in the same direction, and that we may return to the principle of freedom for individual parents in the education of their children in accordance with their conscience, and to the principle of freedom for the States, and to the reliance upon the multiplicity of them for a preservation of those things that have made our Country great.

It is to be hoped that the indications of a returning love of liberty which are just beginning to appear are not illusory, but that America, despite opposition, is going to return to the freedom that used to be the very atmosphere that she breathed. But let us be perfectly clear about one thing—if liberty is not maintained with regard to education, there is no use trying to maintain it in any other sphere. If you give the bureaucrats the children, you might just as well give them everything else. That is the reason why I think that every one of us ought to be opposed with all his might and main to the sinister legislative measure that we have been considering today. No, we do *not* want a Federal Department of Education; and we do not want, in

any form whatever, the slavery that a Federal Department of Education would bring.—*The Woman Patriot*, Feb. 15, 1926.

THE MENDELIAN LAW. ITS APPLICATION TO THE HUMAN FAMILY

We are repeatedly asked for information relative to the Mendelian law as it applies to the human family. In order to get the information to the widest number of our readers possible we reproduce an article in the *Journal of the Iowa State Medical Society*, March, 1926, from the pen of Dr. W. W. Bowen of Fort Dodge.

GREGOR JOHANN MENDEL

In 1900 the law of Mendel was rediscovered. At first it appeared to refute and overthrow the idea of evolution, but as it became better understood and its principles thoroughly investigated it is found to confirm evolution, and is the basis of all biologic studies. What the atomic theory is to chemistry, and the theory of gravitation is to astronomy, Mendel's law is to biology.

In 1822 Gregor Johann Mendel was born in Heinzendorf, a small village in Austrian Silicia. He was one of a large family and his father was a peasant, a tenant farmer as we would say in this country, having but recently risen to that station from a peasant laborer. Mendel was not a Jew though the name suggests Jewish origin. There was no public school in Heinzendorf, but Mendel's maternal uncle supported a school there which Mendel attended, and at the age of eleven he was sent to the public school at Leipnic and finished there. The gymnasium in Germany and Austria corresponds to our high school, but is not free. Mendel's father was unable to send him to the gymnasium and do justice to his other children, but a younger sister gave up a part of her dowry that the money might be had. Now a dowry in those European countries means more than it does here, for here a girl can generally find a husband whether she has a dowry or not, but there the dowry is part of it and if a girl has none, she is pretty certain not to find any one to marry her. Mendel took the dowry, but later repaid his sister and educated two of her sons. He went to the gymnasium at Tropou and at Ölmütz, finished there. At Tropou, one of his teachers was an Augustinian Monk who made a great impression on him and when he was through at Ölmütz, he entered the monastery at Brünn, known as Konigsklöster, as a novice and at that time assumed the name Gregor. He was then twenty-one and was ordained a priest at the age of twenty-five, and then taught four years in Brünn; then at the age of twenty-nine he was sent by the monastery to Vienna to study natural science to which he had shown great aptitude. He stayed two years and returned to Brünn and taught in the Real schule for fifteen years. Then at the age of forty-six he was made abbot. This eleva-

tion came to him against his wishes. He was an enthusiastic scientist and teacher, and even when he was a novice, he commenced his original investigations in botany, and his elevation brought all this to an abrupt close, and henceforth his life was spent in executive duties, not to his liking.

Shortly after Mendel became abbot, the Austrian government made a law taxing monasteries, as they thought unjustly, and they resisted the law and Mendel led the fight. At first all the other monasteries supported him, but at the last he stood out alone and even allowed the property of the monastery to be distrained rather than submit. After years the law was repealed, but not until after Mendel had died of chronic nephritis from which he had suffered for years.

If ever a man suffered the troublous vicissitudes of life to the end, it was Mendel. In his young life he was industrious, original, enthusiastic and of a joyous disposition. For twenty-five years he spent his spare time in the garden of the cloister studying and raising plants, and eight years were devoted to different varieties of peas, and he kept records of over 8,000 plants and from them evolved the principles now known as Mendel's law. He published this in 1865-6, years after the publication of the "Origin of Species" by Darwin, in the transactions of the Historical Society of Brünn, and it fell completely flat. He sent this account to Nageli in Munich, the only great scientist with whom he had direct contact, but Nageli considered it of little moment. He was then forty-three, and after that he published one short article and that was all. Three years later he was made abbot, and shortly afterward the trouble with the government commenced, and he became ill, and troubled and morose, and his naturally joyous disposition changed, and became suspicious and embittered and he died an unrecognized and disappointed man. He never knew that the government finally decided his differences in his favor, and he never knew that eighteen years after his death and thirty-five years after his paper was published, that it was resurrected and has now become the fundamental law of inheritance and the basis of a new science, eugenics.

In 1900 three scientists all working independent of each other, De Vries, a Dutchman; Correns, a German, and Tsermack, an Austrian, all worked out the same principles and dug up Mendel's paper hidden in the dust of the transactions of the Brünn Historical Society and gave his great work to the world.

MENDEL'S LAW

Mendel made his experiments with the edible garden pea, not sweet peas as is sometimes stated. He selected seven characters which were easily perceived and crossed them with each other. They were:

1. Difference in the form of the ripe seed.
2. Difference in the color of the seed albumin.
3. Difference in the color of the seed coat.
4. Difference in the form of the ripe pods.
5. Difference in the color of the unripe pods.

6. Difference in the position of the flowers—axillary or terminal.

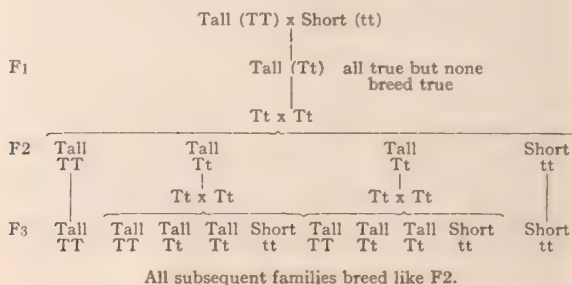
7. Difference in the length of the stems, the tall were about 6 feet, the short about 18 inches.

Taking the last which illustrates them all, and experiments with the rest all confirm the findings of the last, he found crossing the tall with the short:

1. The first generation all are tall but none breed true, being hybrids.

2. The second generation—all hybrids bred together—gives 3 tall and 1 short, the short breeds true, but only one of the tall breeds true.

3. Shorts bred together always give short.



There are certain terms that must be understood in order to comprehend the Mendelian law:

Dominant, a character that dominates or controls an individual.

Recessive, a character that tends to recede and is overshadowed by the dominant when both are present in an individual.

Heterozygous, containing 2 gametes, one dominant, the other recessive and that does not breed true.

Homozygous, containing 2 gametes, both alike and that does breed true.

Gamete, something inherited from progenitors, each life cell contains 2 gametes, one inherited from the father and one from the mother.

In order to understand the zygous terms it is necessary to have a conception of the zygote. Each life cell, the spermatozoid in the male and the ovum in the female, contains two hereditary elements, one from the father and one from the mother, these are called gametes. Each gamete is either dominant or recessive.

To illustrate this graphically:

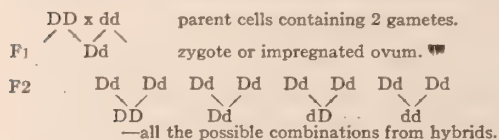
Let D represent dominant.

Let d represent recessive.

Then DD will be homozygous and will breed true.

Dd will be heterozygous and will not breed true.

dd will be homozygous and will breed true.



Ratio 1 : 2 : 1.

Now in tall and short peas, tall is dominant to short.

Therefore—

Tall is dominant.

TT is dominant also homozygous and breeds true.

tt is recessive and also homozygous and breeds true.

Tt is dominant in appearance but is heterozygous and does not breed true.

Then from the diagram we get—

1. Dominant bred to dominant, all dominant and all breed true.

2. Recessive bred to recessive, all recessive and all breed true.

3. Dominant bred to recessive, all are dominant in appearance, but none breed true.

4. Dominant bred to heterozygous, 2 dominants that breed true, 2 heterozygous, that look dominant.

5. Recessive bred to heterozygous, 2 recessive that breed true, 2 heterozygous that look dominant.

Mendel found that his law applies to peas and assumed that it applied also to other plants as well; De Vries found that it applies to wheat, and others found that it applies to all plants. Prof. Morgan of Columbia University proved that it applies to the banana fly and discovered numerous of its complications, and in working this out, cultivated, recorded and tabulated over 40,000 of these flies. The banana fly lends itself very well to experimentation because it has a number of variations, it is easily kept on a little banana in a milk bottle, and reproduces every nine to eleven days 200 to 300 young.

It is now known that Mendel's law applies to all animals and to the human species, and that every inheritable character follows this law; that it not only controls physical form, color complexion, family peculiarities, like the Hapsburg lip, but mental traits and moral character and family habits are also governed by it. In short it is the basis of eugenics and the basis upon which every breeder must depend to develop his herd, and every horticulturist to develop new flowers and plants. It is the most fundamental thing in biology.

INHERITABLE CHARACTERS

DOMINANT

Normal size of body
Short fingers and thumbs
Brachydactylism
Extra finger (polydactylism)
Webbed fingers
Fragile bones
Double jointedness
Hapsburg lip
Pale thick skin
Normal skin pigment
Spotted white hair
Easily blistered skin
Hairy skin
White fore lock
Dark brown hair
Black hair
Patchy gray hair
Curly hair
Hair on fingers
Dark eyes
Hereditary cataract
Large eye ball
Normal

Non-musical
Non-artistic
Normal condition
Normal mentality
Normal condition
Normal condition
Normal condition
Diabetes
Normal condition

RECESSIVE

True dwarfism
Normal length
Normal digits
Normal number
Normal fingers
Normal bones
Normal joints
Normal lip
Dark thin skin
Albino
Solid color
Normal skin
Normal skin
Solid color
Light brown hair
All other colors
Solid color
Straight hair
Absence
Blue eyes
Normal eyes
Normal
Deaf mutism—when not due to disease
Musical
Artistic
St. Vitus dance
Dementia precox
Paranoia
Alcoholism
Hysteria
Normal condition
Bronchial asthma

It is not necessary for me to cite the histories of families, large portions of whose members are insane or feeble-minded, and of others who are nearly all

criminal and others who are hereditary paupers. Every community has them—they are hereditary traits. Cultivation and education seems to benefit them some, but does not eradicate them.

THE CELLS OF THE BODY

The body of an animal or plant is composed of an innumerable number of cells. The simplest animal or plant is composed of a single cell and that cell contains all the functions of life, digestion, absorption, secretion, excretion, sensation and reproduction; in the more highly organized plants and animals, the functions of the cells become specialized, thus there are muscle cells for motion, nerve cells for sensation, glandular cells for secretion, etc. All these cells we may call body cells and they have the power to reproduce cells like themselves, but they can not reproduce the individual, for this highly specialized cells are segregated from the body by organs for that very purpose. These are the germ plasm or life cells or reproduction cells, the spermatozoid in the male and the ovum in the female.

CHROMOSOMES

In unicellular organisms, reproduction is by simple division of the cell into two, but in higher organisms, growth is by mitosis and reproduction is by union of the germ cells of two individuals of different sex and then division into body cells.

Mitosis is cell division of a more complicated sort. Each cell contains a nucleus and near the nucleus is a tiny spot called the centrosome. When mitosis begins, the centrosome separates into two and they recede from each other, and as they recede a bundle of fibres appear between them called the achromatic spindle. They finally reach points on opposite sides of the nucleus, and the achromatic spindle broke in two, but in this new position a spindle connects them through the nucleus. As this is going on, the chromosomes have fused into one irregular thread and then divides into the same number of chromosomes that there were before and now they arrange themselves in v-form with the points of the v's toward the center of the nucleus like the spokes of the wheel, with the achromatic spindle as a hub. The chromosomes now split longitudinally and separate from each other so that where there was one wheel, there are now two, and then the whole cell divides between them, and mitosis is complete. This is the process of division in all body cells.

The division of the life cells or sperm cell is slightly different. When the chromosomes form into a simple thread and fills the nucleus as an irregular coil, the thread divides again, but only into half the number of chromosomes there were before, then mitosis proceeds about the same as in the body cells. When the sperm cell unites with its mate, that is, when impregnation occurs, a like number of chromosomes is brought into the new cell from the mate and the number of chromosomes is restored.

There is a definite number of chromosomes in each species, thus man has 24—this is pretty definitely de-

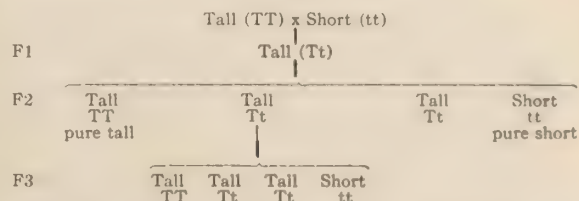
termined though there is some difference in opinion about it, some claim that there are 16. The mouse has 20; the snail, 32; cotton, 28; 4 o'clock, 16; garden peas, 7; night shade, 36; tobacco, 24; wheat, 8.

The chromosomes are gene carriers; gene are those properties of cell that permit or cause any inheritable character to pass from parent to offspring, they are also called factors, thus there is a factor for the dark color of the hair, another for the dark skin, another for the color of the eyes, another for tallness, and so forth, one for every inheritable character. Each chromosome contains numerous factors and may be likened to a string of beads—each bead the factor for some character.

The factors for similar characters are located in the same chromosome, and the closer the characters resemble each other, the closer their factors lie together in the chromosome, and are called linked factors. For some characters to show up in the offspring two or more similar factors are required.

When a factor exists in one parent for some character, a similar factor exists in the other parent and they are called allelomorphs of each other, for instance, in the tall pea, there is a factor for tallness, and in the short pea, there is an absence of the factor for tallness or a factor for shortness, and the factor for tallness and shortness are allelomorphs of each other.

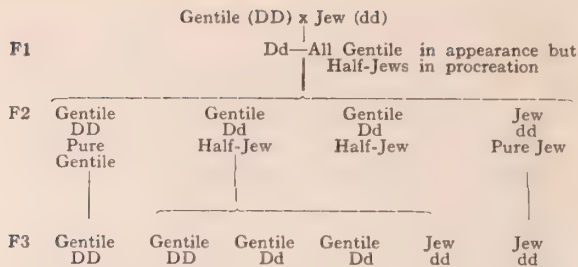
When the tall pea is crossed with the short, the germ cell or gamete of the tall contains two elements for tallness which is inherited from its two parents, and the germ cell of the short contains two elements of shortness which is inherited from its parents; but when the two gametes unite with each other and form the fertilized ovum or zygote, only one element comes from the tall and one from the short, so the first generation genetically are all hybrids even though they may look tall. In the second generation they separate into pure tall, pure short and heterozygous and this is called segregation.



One of the chromosomes is the sex chromosome and in it linked together are not only the factors that determine the difference in the sex organs, but also the factors that determine the bodily character peculiar to sex, such as size of the body, configuration of the body, the beard, the difference in the larynx and consequent difference in the voice, the difference in the breasts, etc.

SIMPLE MENDELIAN LAW

A Jewish scientist, Salaman, worked out the Mendelian law as related to Jews and non-Jews and found that they cross according to simple Mendelian law, the gentile or non-Jew being dominant and the Jew recessive.



1. Gentile marries a Jew all their children look like gentiles but are half Jew.

2. If a half-Jew marries a half-Jew, 3 children out of four will look like gentiles but only one of the three will be a real gentile and his progeny will be gentiles, the other two will be half Jews; the other one of the four will be a real Jew. Ratio 3 : 1 as to looks. Ratio 2 : 1 as to breeding.

3. If one of these segregated gentiles marries another segregated gentile, all their children will be real gentiles.

4. If one of these segregated Jews marries another segregated Jew all their children will be real Jews.

5. If a gentile marries a half-Jew, all their children will look like gentiles, and two will be real gentiles, while the other two will be half-Jews. Ratio 4 : 0 as to looks. Ratio 2 : 2 as to breeding.

6. If a Jew marries a half-Jew, half their children will look like gentiles, but 2 will be half-Jews while the other half will be pure Jews. Ratio 2 : 2 as to looks. Ratio 2 : 2 as to breeding.

While this is the law worked out by Salaman, I am sure it is correct as to breeding, but I believe there will be more variation as to looks than his law shows, because dominance is not always complete, and frequently the ratio of dominance or appearance conforms very closely to the ratio as to breeding. This is true in the dehorning of Hereford cattle.

DIHYBRIDISM

Sometimes there are two factors in a chromosome that carry the same character, as for instance color. In those cases to bring out certain features in the offspring, two doses are required. This is beautifully illustrated in the negro.

It is fairly certain that the original man was brown and not yellow, white, black or red and that these colors have been added to him through the ages by mutation.

If a white person is crossed with a negro, all the children are mulattoes—none are white and none are black, but all are brown.

If mulattoes are crossed with each other, the children will be of varying shades of brown, and rarely one will be pure white and equally rarely one will be genuine Ethiopian black.

If the Ethiopian color were a simple Mendelian character, all of the children of negroes crossed with white would be black as black is dominant, but none of them are black. This is because it requires two doses of black to produce the Ethiopian black, there-

fore a careful study of mulattoes shows that the children of two mulattoes have:

1. One chance in sixteen of being black.
2. One chance in sixteen of being white.
3. One chance in four of being dark brown.
4. One chance in four of being light brown.
5. One chance in six of being mulatto.

This is illustrated in the appended table.

AB	Ab	aB	ab
AB	AB	AB	AB
AB	Ab	aB	ab
Ab	Ab	Ab	Ab
Ab	AB	aB	ab
aB	aB	aB	aB
aB	Ab	aB	ab
ab	ab	ab	ab

These 16 squares represent all the possible combinations of the two factors working together. Ratio 1:4:6:4:1.

Although one out of sixteen is white, one must not get the impression that he will be a Caucasian, he will not be nor will he even look like one, because there are numerous other characters of the negro race such as kinky hair, thick lips, flat nose, physical contour, flat feet and protruding heels, and all of them are dominant and will show up to be a negro in spite of his color.

COMPOUND CHARACTERS

Cock's Combs

Ordinary barnyard fowls have four types of combs:

1. Single—common to various breed and is always recessive, and is probably the original form of the comb.
2. Pea comb—common to various breeds, and dominant to single.
3. Rose comb—common to various breeds, and dominant to single.
4. Walnut comb—found normally only in one breed, the Malay.

In the various crosses peculiar things appear.

Single x pea follows the simple Mendelian law:

F₁ all are pea but do not breed true.

F₂ 3 pea : 1 single—ratio 3 : 1 as to looks.

1 : 2 : 1 single as to breeding.

Single x rose also follows the simple Mendelian law:

F₁ all are rose but none breed true.

F₂ 3 rose : 1 single as to looks.

1 : 2 : 1 as to breeding.

Rose x pea an entirely unexpected thing happens:

F₁ all are walnut.

F₂ walnut x walnut gives 1 walnut : 1 rose : 1 pea : 1 single.

F₃ these 4 types breed true.

It is probable that the original comb was single, but by mutation the pea appeared, then it became segregated and became the prevailing comb of several breeds.

At another time by mutation, the rose comb appeared and became segregated and is finally the prevailing comb of various breeds.

At another time the rose became crossed with the pea and the walnut, being the heterozygous form of pea and rose, became segregated and eventually the Malay breed was developed with the walnut as its peculiar comb.

SEX

The production of sex follows the Mendelian law, but naturally there is a modification of the usual Mendelian ratios—1 : 2 : 1 as to breeding, and 3 : 1 as to appearance.

It is axiomatic that the offspring of any two parents must not be halfway products but must be either male or female. In bisexual animals hermaphrodites never

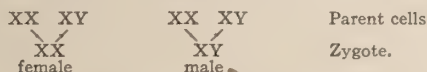
exist; all so-called hermaphrodites prove on careful investigation to be errors in development like hare lip, usually hypospadias.

The sex factors are carried in the sex chromosome and are different in the two sexes.

The female sperm cell or ovum contains two gametes which is received from its parents.

The male sperm cell or spermatozoid has two gametes for sex which it received from its parents but they are different from the female.

Let the female gametes be represented by xx.
Let the male gametes be represented by xy.
The crosses will be as follows:



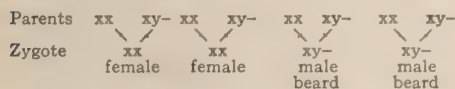
SEX-LINKED CHARACTERS

When a character appears in one sex only, it is said to be sex-linked. There are many such characters. Aside from the difference in form the sex organs, in the human there are the larger body in the male, the beard, the more hairy body, the coarser features, the larger larynx and consequent heavy voice, and many other physical features as well as the different mental traits, and these differences are as marked in all lower species as they are in man.

In the same chromosome with the sex factor and linked with it are the factors for each of these characters; they are dominant in the male, or the one that contains the Y gamete, and recessive in the female, and wherever the Y gamete appears in the zygote, all the male factors appear also.

To illustrate this:

Let xx represent the female parent cell.
Let xy represent the male parent cell.
Let xy— represent the male parent cell with the factor for beard linked to it.



This gives all the possible combinations.

TRIHYBRIDISM

Some peculiarities such as various fancy colors in animals require as many as three factors for color in the chromosome; this is called trihybridism. Doubtless there are combinations of four or more, but such combinations would be so complicated as to make it impossible to unravel them.

INHERITED DISEASES AND DEFORMITIES

Numerous diseases and deformities are hereditary, among them are hereditary cataract, tylosis; palmaris et plantaris, thickening of palms and soles; epidermolysis bullosa, skin blisters from slight causes; xanthoma, yellow patches in the skin; hypertrichosis congenita familiaris, loss of hair soon after birth; multiple telangiectasis, multiple small nevus-like spots; monilithrix, a nodose condition of hair; porokeratosis; diabetes insipidus, occasionally hereditary; distichiasis, eye lashes instead of glands inside the lids; ptosis, drooping eye lid; coloboma or iridemia, absence of

iris or congenital defect of ectopia lentis, dislocation of the lens.

Among the deformities are brachydactyly, two bones in the fingers and toes like thumbs. This was the first known hereditary deformity, described by Farabee in a family in Pennsylvania and by Drinkwater in an English family. Webbed fingers and toes. Five fingers on one or both hands.

All these are dominant and are transmitted directly from the affected to the offspring.

SEX-LINKED CHARACTERS

There are certain hereditary diseases or conditions that are sex-linked that have nothing to do with masculine or feminine characters. Color blindness is one of these, also hemophilia and night blindness, and pseudo hypertrophic muscular atrophy.

COLOR BLINDNESS

Inherited color blindness is an inherited inability to detect certain colors; it has nothing to do with diseases of the eye or optic nerve or conductive apparatus.

Acquired color blindness is due to some disease of the eye, especially the optic nerve. In most cases of optic nerve atrophy, color blindness appears some time before general blindness, and acquired color blindness has some diagnostic value to an oculist.

Color blindness is a recessive character linked to the female gamete. A man who is color blind can not transmit it to either his sons or daughters, but he does transmit the *factor* to all his daughters and they carry it on to one-half of his grandsons.

One man out of every twenty has some difficulty in distinguishing the different shades of color and one out of every twenty cannot distinguish some of the primary colors, while only one-half of one per cent of women are color blind.

Let xx represent the female life cell or ovum, one x or gamete from the father and one from the mother.

Let xy represent the male life cell or spermatozoid, also with two gametes, one from the father and one from the mother.

Let c represent the factor for color blindness which is linked to the x gamete and when the x gamete enters into the formation of the zygote or impregnated ovum, it takes c or the color blind factor with it.

xxc or xcX will represent a color blind carrier female, female because there are two x's or female gametes in the zygote. The zygote also contains c or the color blind factor, but the female will not be color blind because normal vision for color is dominant in females, but she will transmit the factor to her children so that half of her daughters will be color blind carriers and half the sons will be color blind.

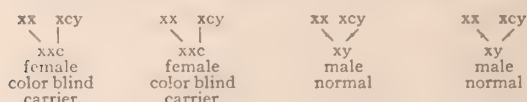
Also xcy will represent a color blind male, there being present both x and y gametes and also the color blind factor c. The man developing from this zygote will be color blind because color blindness is dominant in males.

xcxc will represent a color blind female, a female because there are two x's in the zygote and color

blind because there are two c's or color blind factors in the zygote and none for normalcy.

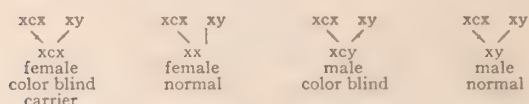
The following diagrams depict all the possible combinations:

1. A normal woman married to a color blind man.



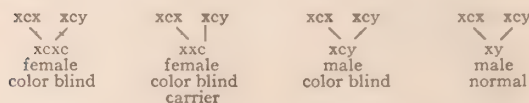
The girls resulting from this union are not color blind because normal vision to color is dominant in females, but they are color blind carriers; the boys are all normal and cannot transmit the defect to their children.

2. A color blind carrier woman married to a normal man.



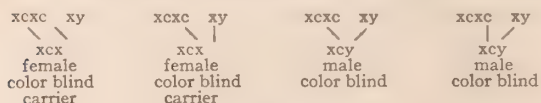
Half of the girls are normal and half are color blind carriers; half of the boys are normal and half are color blind.

3. A color blind carrier woman married to a color blind man.



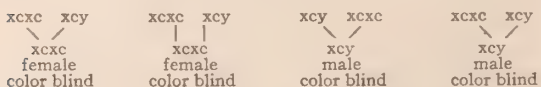
The girls are half color blind and half color blind carriers; the boys are half color blind and half normal.

4. A color blind woman married to a normal man.



All the girls have normal color vision, but all are color blind carriers; the boys are all color blind.

5. A color blind woman married to a color blind man.



All the children are color blind.

HEMOPHILIA

Hemophilia is a disease in which the blood does not clot well and persons afflicted with it bleed inordinately from insignificant wounds. I have known of instances where men afflicted with it have died from having a tooth extracted by bleeding to death. It is a sex-linked character and like color blindness is linked to the x gamete and is also recessive in the female. It is very rare, far more rare than color blindness. It is so rare that a doctor will see but two or three cases in a life time, and often not any. The tables given for color blindness apply also to hemophilia, and the

family trees given for hemophilia illustrate color blindness also.

True hemophiliacs are very rare, and they are practically all men. A woman hemophiliac is one of the rarest things in medicine.

NIGHT BLINDNESS

(Inability to see in a dim light)

Night blindness is a rare disease in this country, although there are a few cases, but in Montpelier in southern France there is a number of villages where it is common and 2,116 pedigrees of persons having the disease have been tabulated. It is a sex-linked character, connected with the x gamete in the male but it differs from color blindness and hemophilia in that it is dominant in the female, therefore if a man has night blindness, all his daughters are night blind and they transmit it to half their sons.

The first known case of night blindness was born in 1637. The disease was described by Cunier in 1838.

Pseudo hypertrophic muscular atrophy is also a sex-linked disease.

FLUCTUATION

Fluctuation is the appearance of some peculiarity in an individual which is non-transmissible and disappears with that individual. A calf born with seven legs, etc., is a fluctuation and not transmitted.

MUTATION

Mutation is the sudden appearance in an individual of a feature which has never been present in that species before, and that is transmissible to that individual's progeny. Such individuals are called mutants or freaks or sports. Mutation was known to breeders long before Mendelism was heard of, but is one of the most important features of Mendelism. It is mainly by mutation that changes in species are brought about, and it is probable that mutation has more, or at least as much to do with evolution as natural selection. It is probable that small mutations are taking place in individuals all the time and these being transmitted to other individuals, cause more or less change all the time; and besides this, there are sudden very marked mutations in an individual that start new varieties, and this is a start toward a new species.

Mutations are generally dominant characters and follow simple Mendelian law, and segregate exactly as varieties. The ratio is usually 3 : 1 as to appearance and always 1 : 2 : 1 as to breeding.

No mutant character will develop in an environment that is unfavorable to it, for instance, if in a herd of wild cattle, a male should appear without horns, a muley, he would be driven out of the herd by the other horned males if he did not fall a prey to some other animal and would not be allowed to procreate.

Also a character that is well developed will disappear if the species is placed in an environment unfavorable to that character, for instance a herd of cattle is developed to a large size, then if they are under fed, they fail to develop to the full and their progeny also. Again—shetland ponies on a small

island where the food supply is limited but the climate is delightful, become small, sleek-skinned, beautiful animals, but transplant them to Iceland, and they soon develop long scraggy hair. Such instances illustrating the effects of environment could be given by the hundred.

There are all degrees of dominance in freaks as well as in established species. In peas, for instance, dominance as to tall and short is complete, so that in the first generation of crosses between tall and short, all are tall, and in the second generation, there are three tall to one short, while in the horned and muley hereford cattle, it is not always complete and about half of the first generation are horned and half dehorned and in the second generation the ratio is nearly the same.

HEREFORD CATTLE

Mutation and the working of Mendel's law is beautifully illustrated in breeding the horns off of hereford cattle.

Hereford cattle were developed in Hereford county in England where for hundreds of years they were bred mainly for use as oxen and incidentally for milk. For use as oxen it was desirable that they be tall and long legged that they might be able to walk rapidly, and that they be powerfully muscled and large boned that they might have strength, and that their fore quarters should be heavy so they could pull better and that the neck be developed to support the yoke well. All these characters were developed to the full, by breeding, and incidentally the breeders developed peculiar skin markings that mark the breed and add to the beauty of the animals. They have white faces, a white streak on their shoulders, white bellies, white feet and the bush of the tail is white, and any deviation from these markings decreases the desirability of the animal. Their horns were long and turned upward.

But in the course of time, oxen were no longer used, and then this breed was converted by breeding into a pure beef type. To do this it was necessary to change the type of the animal. So an animal was developed that carried the same horns and the same skin markings as the oxen, but he is short legged, heavy boned, straight backed and broad backed, heavy and square in the hind quarters and loins where the best cuts of beef are.

The western ranges were full of scrub cattle and long horned Texans, and for awhile people bought the beef from them readily, but as people became more prosperous, they became discriminating in their beef, and these tough Texans found a poor market. To overcome that, the ranchers bought thousands of hereford bulls and crossed them with the scrubs and Texans so that in twenty-five or thirty years the western herds were largely high grade herefords.

For a time the long horns of the herefords were considered by the ranchers an advantage because an animal so armed could protect himself against the other horned animals and against wild beasts, but after a time new developments arose and ranchers began

to dehorn their cattle, because on the ranches it was found that dehorned animals fought each other less, and when they were shedded, more could be put in the same space, and in shipping, more could be put in a car and less were injured and killed in the cars, and lastly steamship companies began to refuse to ship horned cattle on long voyages.

The breeders of short horns or durhams, as they used to be called, were having the same trouble with their horns. Not far from Minneapolis a farmer named McNaire had a small pure bred herd of short horns and one of his cows, Oakwood Gwynne, in 1881 gave birth to twin heifers that were freaks, having no horns. The next year, the same cow had a male calf but of a different sire from the twins, that also had no horns. The twins were named Mollie Gwynne and Nellie Gwynne and the male was named King of Kine. King of Kine and Nellie Gwynne, although half-brother and sister, were crossed, and the result was a polled male, which was named Ottawa Duke.

Mutant characters are usually dominant and breed true; therefore Ottawa Duke being from two freaks was a dominant dehorner. He was crossed with many cows, mostly horned cows, and had fifty-four sons and seventy-five daughters, and every one of them was polled. That was the beginning of the polled short horns.

It was believed that herefords never had polled freaks, but to be sure, Warren Gammon, a hereford breeder, wrote to all the hereford breeders in America and Canada, and found twelve such freaks, and bought them all, four males and eight females. One male and one female he sold at once to W. W. Guthrie, and they never were on his farm, which was at St. Mary's, near Des Moines.

One of his cows had a scur, which is an imperfect horn, attached to the skin but not to the skull, so was not a genuine mutant, but probably a throw back from mutant ancestor many generations back. She was an irregular breeder throwing both horned and dehorned calves even when crossed with mutants, which proves her to be an heterozygous animal.

One of the males and two of the females proved not to be breeders, and that is a frequent condition with mutants, and is one of the reasons it is so difficult to cross different species; others were not very prolific and some were quite poor as individuals.

Giant was the best of the males, but he had been stunted when a calf and never developed to the full—weighing only 1,800 pounds. He left a numerous progeny and can be said to be the originator of the breed.

About four out of seven of the calves of freaks crossed with horned cattle were polled, showing that dominance in the hereford breed for absence of horns is incomplete—if it were complete, all the first generation would have been without horns. The calves of freaks crossed were nearly all polled.

Mr. Gammon secured the herd of freaks in 1900, the year that Mendel's law was rediscovered, but he knew nothing about it. Had he been familiar with it,

and if breeders generally were familiar with it, their problem would be easier.

FERNS

Very interesting mutations have occurred in ferns within the past few years.

The natural habitat of the common sword fern that you have all seen many times in greenhouses and in your homes, is in the West Indies.

This fern was brought into America from Jamaica in 1793, and became a favorite house plant, and grew without change for a hundred years; then, about thirty years ago a florist near Boston found growing from the roots of this fern another kind of fern, having the same general form as the sword fern but finer and thinner fronds and altogether a more delicate plant.

Ferns are endogenous or non-flowering plants and propagate by spores instead of seeds and also by adventitious buds in the roots, the same as many flowering plants. This new fern was a mutation from the roots and is called a bud sport. Soon this new form spread all over the United States and was very popular, and known as the Boston fern.

After five or six years, in various parts of the country, some five other forms or mutations from the Boston fern appeared, all differing from each other and all differing from the Boston fern more than it differed from its mother form, the sword fern. Since then many other forms have appeared until now these mutant ferns are more popular than the older forms and are sold by florists by the million.

The anti-evolutionist thinks he has a clinching argument when he says that "no one has yet been able to evolve a new species"; yet within our own lifetime—less than a generation—here are ferns called varieties that differ more from the original sword fern than some other ferns of well recognized species differ from each other.

WHITE INDIANS

Ever since Magellan crossed the Isthmus of Panama and discovered the Pacific Ocean, there have been rumors of white Indians in the jungles of Central America, which were for the most part treated as others of the fabulous stories of unexplored regions.

In 1923 R. O. Marsh, an engineer searching for rubber lands in Darian, some hundreds of miles east of the Panama Canal, actually saw several of these white Indians. The next year he led another expedition into the same country and had with him several scientists and they saw over 400 of these strange people, and brought eight of them back to America—three white ones and five brown ones. They created a great deal of interest in scientific circles and caused a good deal of newspaper and magazine discussion.

In the early part of this year (1925) a third expedition penetrated the region, headed by Mr. Marsh and accompanied by Prof. R. G. Harris, director of the Long Island Biological Station. Professor Harris gave the Indians a careful study and concludes that:

1. The Indians of Darian are of a high order of physical and mental development.

2. They are a very old race and speak a language different from any other American Indians and which is allied or similar to Sanscrit.

3. They have a rather high order of government and are a very moral people. There are numerous tribes, all under the feudal overlordship of one ruler.

4. Among these Indians, which are brown, are numerous white Indians.

5. The white Indians have originated from the brown by mutation long ago and the white permeates the entire stock to a large extent.

6. This mutation is a permanent change and is hereditary, following the Mendelian law, the white being recessive to the dominant brown.

7. The heredity apparently follows about the same lines as the white and negro races. There are: dark brown—the original type of color; light brown; very light brown, and white.

8. They are not pure albinos because they have golden yellow hair instead of white, and they have hazel eyes instead of the pink eyes of the pure albinos. Their physical characteristics are all Indian except the color, showing they are not descended from any cross with Caucasians.¹

I have shown what I consider beautiful examples of evolution by means of mutation following the Mendelian law that have occurred in the lifetime of everyone here:

1. In the vegetable world in the ferns.

2. In the animal world in the polled cattle.

3. In the human race in the white Indians.

If these marked and visible changes can be brought about within the period of these few years, what is the limit of changes that have been brought about within the geological periods of millions of years?

INBREEDING

Inbreeding is the crossing of near relatives. In the human family it has long been considered to be a disastrous thing for cousins to marry, but the effects of inbreeding depend entirely on the parents, that is, just what they have to transmit. Breeders of domestic animals often inbreed with deliberate purpose, and inbreed more closely than cousins, and often get very good results. If there are strong characters in two individuals that they want brought out or intensified, they cross them, even though they are near relatives—father and daughter, or brother and sister.

The ill-effects of inbreeding in the human race is that there are so often bad characters in families, and if they are crossed, these characters are likely to be preserved in the offspring and even intensified. For instance, if two relatives, each of them having some nervous derangement such as hysteria, this would be intensified in some of the children and there would be extreme nervousness and mental instability or even insanity. And, strangely enough, it is persons that have these defects that are most likely to intermarry.

There are some notable exceptions to this, however. Erasmus Darwin and Josiah Wedgewood were very great friends. They were two great men. Wedgewood

1. Good articles on these people may be found in the March, April and June World's Work (1925).

wood was the Henry Ford of his time and, more than that, for he was a statesman and a philanthropist as well as a manufacturer. He it was who brought the manufacture of pottery in England to its own and originated Wedgwood ware and Queensware, and the blue dishes that are now so much desired. Wedgwood married his cousin, Sarah Wedgwood, and their daughter married Robert Darwin, Erasmus Darwin's son, and became Charles Darwin's mother; Charles himself married another Wedgwood, his cousin, and they had four sons. One became professor of astronomy at Cambridge, another became a noted mathematician and the other two both became noted engineers. In this case, there were no hereditary weaknesses in the families and the strong qualities were accentuated.

It was the Egyptian law under the Ptolemies that Pharaoh should marry his sister. Cleopatra was the last of the Ptolemies and was married to her brother until Julius Caesar took her away from Egypt to Rome. This is surprising, too, because the Ptolemies were Greek and not Egyptian.

In ancient Peru, it was the law for the Inca to marry his sister, and that was practiced for hundreds of years. The Inca had many wives, but his queen was his sister and their children were heirs to the throne. The custom does not seem to have had any serious effects, for the last Inca before the coming of the Spaniards was a man of exceptional ability, and was a conqueror and organizer and able ruler up to the time he was captured by the Spaniards.

CANCER

Maud Slye, working in the Sprague Institute for Cancer Research in Chicago, for a number of years has been studying mice to determine whether cancer is hereditary. She has raised over 40,000 mice and kept accurate family trees and pedigrees, and all that have died have been autopsied and all laboratory methods used to determine the causes of death. Five thousand tumors have been examined to determine their pathology.

Mice in their wild state are short lived, having so many and relentless enemies, but she keeps them free from all these dangers and in the most perfect hygienic surroundings, so they live out their natural lives.

She found that mice in their breeding follow the simple Mendelian law. A common house mouse crossed with an albino produces three gray and one white in the second generation, gray being dominant to white and in breeding the ratio is 1 : 2 : 1.

Bateson long ago (Mendel's Principles of Heredity, page 74) saw an entirely different condition as related to the colors of domesticated mice, but he worked with mice of no less than six different colors, and found ratios of 12 : 3 : 1 and in others a ratio of 9 : 3 : 4; the colors are agouti, chocolate, cinnamon agouti, blue (dilute black) and silver faun, to say nothing of white and yellow. These are fancy breedings and too complicated to be practical.

Maude Slye found, as before stated, that gray is dominant to white and breeding follows the simple Mendelian law ratio 1 : 2 : 1. She also found that

certain mice, if they live long enough—that is, live long enough to reach the cancer age—develop cancer and, what is more, transmit cancer to their offspring, following strictly the simple Mendelian law. Resistance to cancer being dominant and the tendency to cancer recessive. She segregated out dominant strains—those resistant to cancer—that never develop cancer; on the other hand she segregated recessive strains—that with the tendency to cancer—and got families in which every member developed cancer, and she carried these as high as 120 generations.

This would seem to prove conclusive that cancer, at least mouse cancer, is hereditary. If this is true in the human race, the war on cancer is well nigh hopeless, for to prevent people from marrying simply because one or the other's parents or grandparents had cancer would be impossible.

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COLLOIDAL LEAD JOINS X-RAYS AND SURGERY TO RELIEVE CANCER

London.—With thirty almost hopeless cancer cases apparently cured, Prof. Blair Bell's lead treatment comes well to the front, if not to the center, of the crowded arena of cancer research.

Of the 227 partially hopeless cases treated since November, 1920, 30 have been pronounced cured, in ten the cancerous growth has been arrested and nine are considered greatly improved. Dr. J. G. Adami, vice-chancellor of the University of Liverpool, in a comment in the English medical journal *Lancet*, in which Prof. Bell's papers on the lead process of treating cancer have appeared, says that the thirty patients show no sign of lead poisoning or recurrent cancer,

are in good bodily condition and are following their usual occupations.

The funds to carry on this line of cancer research have been furnished by private endowment and are administered by the Liverpool Cancer Research Committee, of which Prof. Bell is now director. In his efforts to find a preparation of lead that would react against the cancerous cells and not harm the surrounding tissue he has been assisted by the department of Physical Chemistry of the University of Liverpool.

This has proved to be one of the most serious problems of the whole method of treatment. Lead salts injected directly into the circulatory system are poisonous. Colloidal lead, with which the best results are obtained, consists of small particles of lead suspended in a state of more or less unstable equilibrium. The problem of the chemistry department of Liverpool, then, has been to devise a method by which a lead colloid could be made more stable and effective. A group of scientists working under Prof. W. C. McC. Lewis have been conducting a series of investigations which, while they have produced a considerable improvement, have not yet been able to make a preparation that will stay suitable for use for more than a few days.

As yet, according to the account in *Lancet*, the product is still so unstable and difficult to prepare as not to warrant the publication of the procedure necessary to make it. It is hoped that ultimately a permanent colloid will be perfected which will be then made available for use in the hands of clinicians carefully trained to administer it.

In his most recently published analysis of his results Prof. Bell stresses the point that much work must still be done to make a more active preparation of lead that will be less poisonous to the system generally. All types of malignant growths, he declares, are probably amenable to the beneficial influence of lead if only enough of the metal can reach them.

He does not hesitate to employ auxiliary measures of surgery, X-rays, or radium when circumstances seem to warrant, but recommends that when the growth has been partly or apparently entirely removed, "intravenous injections of lead should be employed within a few days of the operation when possible."

In conclusion, he states that "the method of treatment is difficult, and to some extent dangerous and can only be safely employed by those who are thoroughly experienced in the work, and have laboratory facilities at their disposal."—*Wayne Co. Bulletin*.

TREATMENT OF UNCOMPLICATED GONORRHEA IN THE FEMALE

HARRY W. MARTIN

That the treatment of gonorrhea is inefficient is shown by the number of salpingectomies that are performed and the incidence of residual gonorrheas in the cervix, urethra and Skene's and Bartholini's glands.

Vaginal douches are valuable only for cleansing purposes before other medication. Germicidal solutions

used in this manner are of little value; astringent drugs that control vascular caliber help some.

Tampons aid in extracting water from the engorged cervix, but after a tampon is in the vagina for a short time it hinders drainage and diminishes the germicidal action of the medicament used, but by dilution and by chemical action between the exudate and the germicide.

Vaginal suppositories are of little value, because gelatine melts with difficulty and the resulting solution has only a small penetrating power. Those with cocoa butter base and ointments, are unsatisfactory because their greasy base prevents the action of the medicament on a moist surface.

Painting the vagina and cervix with silver salts is of only very limited value since the endocervix is not included and since the chlorides in the secretions neutralize the silver preparations. The author has used various medicaments by spraying them through a vaginal speculum. Dichloramine-T was found to be inefficient.

The author believes that in order to treat successfully acute gonorrhea in the female, good drainage and frequent or semi-continuous medication of the vagina are necessary. The medicament should be a preparation that does not react with the secretions and form a chemically inactive substance. In the author's opinion, acriflavine seems to fit these requirements to a high degree.

The author recommends the following technic which must be demonstrated on the patient by a nurse who has been trained to do it properly. A rubber sheet is placed on the bed in the manner of the ordinary draw sheet. To avoid the running of any medicament which is spilled on the rubber sheet, a cotton blanket folded to a size about 2 feet square, is placed on top of the rubber sheet under the patient's buttocks, the covers being drawn down to the ankles. About 25 c.c. of 1:500 to 1:1500 acriflavine solution are placed in a glass beside the bed. From this glass a Day syringe is filled, inserted into the vagina and gently emptied. The vagina should have been previously cleansed by a douche.

If the patient injects the acriflavine solution in the manner described and then lies in the recumbent position for at least 30 minutes, the acriflavine will have an opportunity to penetrate into the walls and mucous glands of the cervix and endocervix. This procedure carried out twice daily will usually relieve the cervical gonorrhea and vaginitis, even though it has no effect on the salpingitis. It cannot cure Bartholinitis, but the quicker the cervical gonorrhea is cleaned up the less danger there is of later involvement of either the tubes or Bartholini's glands.

For urethritis, ordinarily the gentle instillation of 40 to 50 c.c. of acriflavine solution—1:3000 to 1:1000 into the bladder through a glass catheter and having the patient urinate immediately afterward is recommended. The urethra is distended by the act of urination and the flavine solution comes in contact with its every portion.

If a trigonitis and severe inflammation of the neck

of the bladder should develop, instillations of 2 per cent argyrol in the same quantity and having the patient urinate immediately afterward, is advised.

For dysuria, santol oil may be of value, but an abundance of fluids with sodium citrate in 30 gr. doses four times daily, is more reliable. Lemonade and most fruit juices are also beneficial. Tea and coffee may help because they are diuretic. Food substances which irritate the urethra are interdicted, such as alcohol, ginger ale, asparagus, onions, radishes, cabbage, condiments, pickled or spiced foods, and vinegar.—*Medical Journal and Record*, Feb. 17, 1926.

THIS MATTER OF PROSTITUTION

If the opinion of certain well-meaning reformers is to be followed all we need do to combat the grave problem of prostitution is to employ the modern day method of correcting social wrongs and enact more legislation. In short, according to these reformers, let our legislative bodies pass a few rigorous laws against prostitution and, zip, the evil ceases to exist. But trained medical men who have studied the problem have strong doubts of the value of such restrictive legislation. There are too many factors involved, factors that man-made laws cannot reach. For example, Prof. von Düring says it is futile to talk of combating prostitution since it always has existed and always will.

In the matter of prostitution and a consideration of its abolition, it is well to remember that there are two powerful influences at work filling the ranks of prostitutes. These are inherited tendencies, weakening moral inhibitions, and environment.

Von Düring says, in confirmation of this charge that evil careers have an ancestral origin or, latent, are developed through unfavorable environments, that as official in charge of the observation and training of wayward boys from 14 to 18 years of age, he had rich opportunities to watch these embryonic criminals and that the majority of them actually did become criminals. It is the belief of von Düring that "most of them could not have been otherwise." He says the same can be stated of girls. In a large institution for girls near Hamburg, but two per cent of the girls taken from the streets and brought into this institution could be classed as normal. In another home of this character, the house physician writes: "Among fifty-four girls brought in during the past week, there was but one normal girl." It is going to take more than legislative acts, even American legislative acts, to change this condition.

We venture the statement that any physician, reading these lines, who will think back over his practice and recall to mind those women who were actual prostitutes, will have much difficulty in remembering a single one who showed the slightest evidence of having been started in life right. The vast majority of these unfortunates are uneducated, untrained, undisciplined, and, in general, unfitted to meet the demands of modern life.

In view of these facts one can hardly expect to have much hope that legislation can solve this prob-

lem. Even in education we cannot find much of encouragement, for it is a bald fact, which must be faced, that a considerable percentage of these women are utterly incapable of absorbing an education or training sufficient to lift them out of the low moral level into which their heredity has put them. Disease sterilizes most of them, for which the rest of the world should be thankful. And this thought probably is not as cruel as it appears, for we must remember that this sterilization by disease has saved countless thousands from being brought into the world to follow in the footsteps of their mothers in obedience to the inexorable laws of heredity.

The next few generations will not see the end of prostitution, but its sane control may lie in compulsory sterilization, in fact, a future civilization fighting for its very existence on an over-crowded globe may, in self-protection, go much further than the sterilization of the wanton, and sterilize both males and females whose progeny is likely, according to the laws of heredity, to be of little or no value to society.—*Urologic and Cutaneous Review*.

Book Reviews

HANDBOOK OF DISEASE OF THE RECTUM. By Louis J. Hirschman, M.D. With two hundred and fifty-two illustrations, mostly original and five colored plates. Fourth edition revised and rewritten. St. Louis. The C. V. Mosby Company. 1926. Price \$6.50.

This work has gone through four editions in rapid succession. This volume brings the subject up to date.

MODERN METHODS OF AMPUTATION. By Thomas G. Orr, M.D. One hundred and twenty-five illustrations. St. Louis. The C. V. Mosby Company. 1926. Price \$3.50.

In this work the author includes only those methods that are practical and workable. The subject is handled in a brief and concise manner and should aid materially in standardizing amputation technic and should assist the operator in obtaining good functional results.

YOUNG'S PRACTICE OF UROLOGY. Based on a study of 12,500 cases. By Hugh H. Young, M.D., and David M. Davis, M.D., Johns Hopkins University. With the collaboration of Franklin P. Johnson. Two octavo volumes totaling 1,484 pages with 1,003 illustrations, 20 being color plates, by William P. Dindus. Philadelphia and London. W. B. Saunders Company. 1926. Pet set, cloth, \$25.00 net.

This work is based on the study of 12,500 case histories representing the authors personal experience at the James Buchanan Brady Urological Institute. The author justifies the various procedures, mechanical devices and original researches which had their inception with him and his able assistance and confreres.

DISEASE PREVENTION. By Herbert H. Waite, M.D., New York. Thomas Y. Crowell Company. 1926.

This work is intended for social workers, students of public health and hygiene, hospitals, boards of health and other public organizations. The author

brings to bear a great mass of historical and bacteriological data. It summarizes in an impressive way what has been done, and is being done, by science to check disease.

SIXTY YEARS IN MEDICAL HARNESS OR THE STORY OF A LONG MEDICAL LIFE, 1865-1925. By Charles Ben-culyn Johnson, M.D. New York. Medical Life Press. 1926. Price, \$3.00, postpaid.

This work portrays the experiences and observations of an every-day country doctor. The author has been frank in naming his mistakes and failures and in the same spirit to note his success and his achievement.

OCCUPATION AS A SUBSTITUTE FOR RESTRAINT IN THE TREATMENT OF THE MENTALLY ILL. By L. Vernan Briggs, M.D. Boston. Wright & Potter Printing Company. 1923.

This volume is issued as a mental hygiene document; it is issued with the purpose of giving to the public the history of how the use of restraint in our hospitals for the mentally ill was placed by law entirely in the hands of the superintendent; also to show how the use of occupational therapy was stimulated to take the place of restraint in the treatment and care of our mental patients.

GOULD AND PYLE'S POCKET CYCLOPEDIA OF MEDICINE AND SURGERY. Third edition. Revised and enlarged and edited by R. J. E. Scott, M.D. Philadelphia. P. Blakiston's Son and Company. 1926. Price, \$2.50 and with thumb index, \$3.00.

The book, as you will see, consists of brief articles, alphabetically arranged on various subjects in the field of medicine and science. It includes drugs, anatomical terms, tests, tables, etc., and describes all facts of general interest concerning them. It is a useful book of reference.

MEDICAL DIAGNOSIS FOR THE STUDENT AND PRACTITIONER. By Charles Lyman Green, M.D. Sixth Edition. Revised and enlarged. With 14 colored plates, and 709 other illustrations. Philadelphia. P. Blakiston's Son and Company. 1926. Price \$12.00.

Many important changes have been made; a number of new diseases have been included and the author has expanded various sections; added a number of new illustrations among which are two new series of cardiograms and polygrams. A very large number of new and modern tests in various subjects are included. The Symptom Index is fused with the General Index in this edition. There are 14 colored plates and 709 text illustrations.

MANUAL OF HYGIENE AND SANITATION. By Seneca Egbert, M.D. Eighth edition, enlarged and thoroughly revised. Illustrated with 154 engravings and 4 plates. Philadelphia & New York. Lea & Febiger. 1926. Price, \$4.00.

Since the publication of the seventh edition marked advances have been made in every division in the science of hygiene and sanitation. The entire book has been revised, a wealth of new matter has been added and the work has been brought strictly up to date.

THERAPEUTICS MATERIA MEDICA AND PHARMACY. By Samu'l O. L. Potter, M.D. Fourteenth edition. Revised by R. J. E. Scott, M.D. Philadelphia. P. Blakiston's Son & Company. 1926. Price \$8.50.

This work is intended to serve as a compendium of information regarding both official and non-official drugs and preparations. Much new material has been added and many statements have been modified, several paragraphs have been deleted. The official preparation of the *Materia Medica* has been brought into conformity with the U.S.P.X.

DISEASES OF THE NEWBORN. By John A. Foote, M.D. Philadelphia, London and Montreal. J. B. Lippincott Company. 1926. Price \$5.00.

This volume is concerned alone with the diagnosis and treatment of the disabilities most commonly seen in the newborn and facts relative to the alarmingly high death rate during the first weeks of life, which has been little affected by out notable progress in other fields of infant hygiene endeavor. This work includes chapters by such well known writers as Prentiss Wilson, M.D.; James M. Moser, M.D.; William F. O'Donnell, M.D.; Frederick J. Eichenlaub, M.D., and John F. O'Brien, M.D., of the faculty of the Georgetown Medical School.

THE SURGICAL CLINICS OF NORTH AMERICA. (Issued serially, one number every other month.) Volume VI, Number 1. (Philadelphia Number, February, 1926.) 325 pages with 136 illustrations. Per clinic year (February, 1926, to December, 1926.) Paper, \$12.00; cloth, \$16.00 net. Philadelphia and London. W. B. Saunders Company.

The contributors to this number are Doctors Babcock, Beheney, Behrend, Beltran, Benson, Jr., Birdsall, Block, Clerf, Eliason, Elliott, Ferguson, Frank, Gill, Harrison, Hinton, Ivy, Jopson, Keene, Keller, Kimbrough, Klopp, Llewellyn, Norris, Pendergrass, Pfeiffer, Sappington, Schumann, Smyth, Jr., Sylvis, Thomas.

OPERATIVE CYSTOSCOPY. By E. Canny Ryall, F.R.C.S. Extra large size 9x12, with 115 plates containing 670 original illustrations, of which 528 are colored. St. Louis. C. V. Mosby Company. 1925. Price, beautiful silk cloth binding, with gold stamping, \$25.00.

This work is one of the most important books of its kind ever issued. It embodies the results of long and progressive work. The many colored plates, all original and taken from patients under the author's care, have been selected from a very extensive collection. A feature is made of representing the successive stages of treatment in particular cases of typical character, beginning with the first cystoscopy and ending with the final one. The work is divided in four chapters as follows:

I. ANAESTHESIA

TECHNIQUE.

1. The Drug.
2. The Concentration and Amount.
3. The Method of Application.

II. URETER

1. URETERIC CALCULI.

- (1) Injection Method.
 - (2) Catheter Method.
 - (3) Dilatation Method:
 - (a) Employment of a Metal Expanding Dilator.
 - (b) Dilatation with Laminaria Tents.
 - (4) Diathermic Method:
 - (a) Dilatation with Metal Olives.
 - (b) Employment of Diathermic Electrode.
 - (5) Scissors Method.
 - (6) Combined Methods.
- Special Appliances:
- (a) Wax-tipped Catheter.
 - (b) Ureteric Transilluminator.

2. NARROWING OF THE URETERIC ORIFICE.

3. URETEROCELE.

III. BLADDER

1. VESICAL CALCULI.

- Cystoscopic Litholapaxy.
Cystoscopic Lithotrites.
Cystoscopic Cannule.

TECHNIQUE.

2. FOREIGN BODIES IN THE BLADDER.

3. VESICAL CYSTS.

- (1) Non-Cervical Vesical Cysts.
- (2) Cervical Cysts.

4. GROWTHS IN THE BLADDER.

The Author's Diathermy and High-Frequency Apparatus.

High-Frequency Currents.

Description of the Apparatus Necessary for Producing High-Frequency Currents:

1. Static Transformer.
2. Condenser.
3. Spark Gap.
4. Self-Induction.

Description of the Author's Diathermy and High-Frequency Apparatus.

Electric Supplies.

Method of Using Foot-Switch:

- (a) Hospital Type.
- (b) Portable Type.

DIATHERMY TECHNIQUE.

IV. PROSTATE

(A) Use of Diathermy in Prostatic Diseases
Indications.

(a) FIBROUS TYPES OF OBSTRUCTION.

1. Transverse Fibrous or Median Bar Obstruction.
2. Circular Fibrous or Collar Bar Obstruction.

(b) GLANDULAR TYPES OF OBSTRUCTION.

1. Nodular Ring Obstruction.
2. Obstruction Caused by Hypertrophy of the Suburethral and Subtrigonal Glands.
3. Middle Lobe Obstruction.
4. Lateral Lobe Obstruction.

(c) CONDITIONS MET WITH AFTER PROSTATECTOMY.

1. Nodules of Prostatic Tissue Left after Incomplete Operations.

2. Contracted Vesical Orifice.

(d) CARCINOMATOUS STRICTURE OF THE INTERNAL MEATUS.

(e) PROSTATIC ABSCESS.

(f) ENCYSTED PROSTATIC CALCULI.
TECHNIQUE.

(B) Complications following Prostatectomy

(a) SUPRAPUBIC FISTULA.

(b) OBSTRUCTION AT THE VESICAL ORIFICE FOLLOWING PROSTATECTOMY.

1. Partial Obliteration of the Internal Meatus.

2. Complete Blockage of the Internal Meatus.

(c) VESICAL CALCULI FOLLOWING PROSTATECTOMY.

APPENDIX

The Author's Universal Cysto-Urethroscope

PYGMALION, OR THE DOCTOR OF THE FUTURE. By R. M. Wilson, M.B. Ch.B. New York. E. P. Dutton & Company. Price, \$1.00.

This work the author draws a vivid, encouraging pen picture of what the doctor of the future may be and what he will probably be able to accomplish in the way of cures.

That the physician of the future will not be the "scientist" of the orthodox type, as is now usually assumed, but "a humanist, a man with the widest possible knowledge of human nature and the deepest possible understanding of human motives," Dr. Wilson contends. "I look forward," he says, "to the time when the practice of medicine will include, within its scope, every influence of known potency over the human spirit, and when the practitioner, like Pygmalion, will look on his work and see, not disease and death, but the glowing lineaments of life."

NEPHRITIS. By Herman Elwyn, M.D. New York. The Macmillan Company. 1926. Price, \$5.00.

In this book the author has presented the individual forms of nephritis with an attempt to correlate the clinical phenomena with the pathological changes. In this connection he has discussed the normal function of the kidney, renal insufficiency, hypertension, and uremia. In discussing the kidney of pregnancy the author has ventured to offer a new explanation for the occurrence of eclampsia of pregnancy.

OPHTHALMIC NEURO-MYOLOGY. By G. C. Savage, M.D. 39 full page plates and 12 illustrative figures. Second edition. Published by the author, 167 Eighth Avenue, North, Nashville, Tennessee. 1926. Price, \$3.00.

In this edition, seven pages (6 to 12) have been rewritten, because of the discovery that the eye has only two axes of rotation, the verticle and the transverse.

Four pages have been added descriptive of the monocular phorometer perfected by de Zeng, collaborating with the author.

EVOLUTION, GENETICS AND EUGENICS. By Horatio Hackett Newman. Chicago, Illinois. University of Chicago Press. 1926. Price,

A new edition of "Evolution, Genetics, and Eugenics,"

completely revised, and interpreting some of the aspects of the recent anti-evolution campaign in the United States.

This valuable collection of excerpts was originally brought together by Horatio Hackett Newman in 1921. In his revision Professor Newman has taken into account the recent rapid developments in evolutionary science and has once more made the book the most modern as well as the most comprehensive account of the subject to be had in one volume.

THE PRINCIPLES AND PRACTICE OF ENDOCRINE MEDICINE. By William Nathaniel Berkeley, M.D. Illustrated with 56 engravings and 4 colored plates. Philadelphia and New York. Lea & Febiger. 1926. Price, \$4.50.

The practice of endocrine medicine is becoming daily a more important and fruitful field of medical labor.

The book is primarily meant for doctors in active practice. The standpoint of the writer is that of a clinical practitioner. Symptoms and diagnosis are discussed at length, and treatment is emphasized. Many details of treatment and dosage are given which have been heretofore inaccessible in print in any language.

In view of the practical aim of the book, many topics of exclusively scientific interest have been only touched on.

INTESTINAL TUBERCULOSIS. ITS IMPORTANCE, DIAGNOSIS AND TREATMENT. A STUDY OF THE SECONDARY ULCERATIVE TYPE. By Lawrason Brown, M.D., and Homer L. Sampson. Illustrated with 112 engravings. Philadelphia and New York. Lea & Febiger. 1926. Price, \$4.00.

The difficulty of diagnosis of intestinal tuberculosis has for years received little attention from students of tuberculosis. The methods of diagnosis herein described has radically changed this point of view. Since the publication of the authors' first communication on this subject a greater number of apparent recoveries from intestinal tuberculosis have been recorded and can be found in the literature up to that time.

PRACTICAL HELPS IN THE STUDY AND TREATMENT OF HEAD INJURIES. By Adolph M. Hanson, M.D. With 91 illustrations. Boston. Richard G. Badger, publisher. 1925. Price, \$3.00.

This work is a thoroughly practical handbook for the busy physician. The writer has succeeded by simple illustrations and photographs rather than by much writing, to render as clear as possible the elementary facts that are so essential to a clear understanding of the subject.

MODERN MEDICINE, ITS THEORY AND PRACTICE, IN ORIGINAL CONTRIBUTIONS BY AMERICAN AND FOREIGN AUTHORS. Edited by Sir William Osler, Bart., M.D. Third edition, thoroughly revised. Re-edited by Thomas McCrae, M.D., assisted by Elmer H. Funk, M.D. Volume II, illustrated. Philadelphia and New York. Lea & Febiger. 1925. Price, \$9.00.

The contributors to this volume are Doctors E. J. G. Beardsley, Thomas R. Boggs, Sir David Bruce, James

Caroll, John W. Churchman, Thomas D. Coleman, Lewis A. Conner, Charles F. Craig, Bowman Corning Crowell, Ernest C. Dickson, George Dock, Elmer H. Funk, Norman B. Gwyn, Robert Hutchinson, George Low, Thomas McCrae, William Everett Musgrave, Sir William Osler, Frederick J. Poyton, Mazyck P. Ravenel, John Ruhrah, J. W. W. Stephens, Charles Ward L. Stiles, George Frederick Still, Richard P. Strong, John L. Todd, Edward Jenner Wood.

NON-SURGICAL TREATMENT OF DISEASES OF THE MOUTH, THROAT, NOSE, EYE AND EAR. By Thomas H. Odeneal, M.D. Philadelphia. P. Blakiston's Son & Company. 1926. Price, \$4.00 net.

This work will prove of distinct value to the general practitioner in his care of the various infections. The diagnosis and treatment of diseases of the mouth, throat, nose, eye and ear and their relation to other parts of the body is of paramount importance in the every day treatment of disease. This work covers the subject in a practical way.

EARS AND THE MAN. STUDIES IN SOCIAL WORK FOR THE DEAFENED. By Annetta W. Peck, Estelle E. Samuelson and Ann Lehman. Philadelphia. F. A. Davis Company. 1926. Price, \$2.00.

This work represents the gathered opinion of fourteen years of experience instructing and care of the deaf.

FOOD FOR THE DIABETIC. WHAT TO EAT AND HOW TO CALCULATE IT WITH COMMON HOUSEHOLD MEASURES. By Mary Pascoe Huddleson. With an introduction by Nellis Barns Foster, M.D. Second edition. Revised. New York. The Macmillan Company. 1926. Price, \$1.25.

THE DOCTOR FIRST AND LAST

I am the Man who signed your Birth Certificate and the Man who will sign your Death Certificate. I stand by you in the hour of greatest Happiness and the hour of deepest Sorrow. I listen to your confessions not breathed to another Soul and keep them inviolate.

My Life Work is consecrated to serving and administering to your Physical wants, night or day, rain or shine. I am at your Beck and Call. I sacrifice my rest, my pleasure, my strength to comfort you.

As I wend myself past the year stones of life toward the Eternal sunset, I am striving to be more charitable, more unselfish and more kindly towards fellow man.

I am the first one you think of in time of sickness and the last one thought of in time of Health.

I am not rich because I serve suffering Humanity, which embraces the poor whom we have with us always.

I am the man who cannot pay his grocery bill, his dry goods bill, his drug bill or in fact any bill on earth until I am paid by you. I am,

YOUR FAMILY DOCTOR.

—Med. Insurance.

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NEW OBSERVATIONS OF SYPHILIS

We have for a long time believed that syphilis belonged specifically to man, did not occur in lower animals under natural conditions, and could be transmitted to very few of them by inoculation. Certain monkeys were available for experimentation and it was not until monkeys were used that we gained any great amount of knowledge concerning the disease. Now comes the news that the llama has been found to be a carrier of syphilis. The treponema found in this animal is said to be identical with that found in man, and female llamas have been successfully infected from human lesions. On the other side, an accidental infection of a laboratory worker has proved that the treponema found in the llama is virulent for man.

Since syphilis has been endemic in Peru for many centuries, the interesting question comes up as to whether man or the llama was the original carrier of the infection. While the disease in the llama is entirely analogous to that in the human, the course is shorter and the tertiary period occurs in from two to three years after the original infection.

The point of special interest is the statement that a curative serum has been produced for the llama. After ten to fifteen inoculations with an attenuated culture, the llama produces an anti-serum which is curative for these animals. The experiments which have been carried out in Buenos Aires seem to have been well checked. Animals cured by the serum have lived from three to ten years, while the controls have all died from general paralysis in less than three years. The young of treated animals have been entirely free from the disease. The use of the serum in man has been entirely and rapidly favorable, surpassing the older therapeutic methods in efficacy. Whether the cure will be permanent in man remains to be seen. The Pasteur Institute of Paris is at present obtaining llamas for extension of these interesting experiments. It seems, however, that we have good ground for believing that a real advance has been made and hoping that a rapid and permanent cure of this terrible disease will soon be in the hands of physicians.—*A. J. of P. H.*

STICKING TO HIS GUNS

Doctor—"Undoubtedly you need more exercise—what is your occupation?"

Patient—"I'm a piano shifter."

Doctor (recovering quickly)—"Well—er—hereafter shift two at a time."—Exchange

IMMUNIZATION AGAINST DIPHTHERIA AND SCARLET FEVER WITHOUT SERUM SENSITIZATION

From the clinical observations of Bretonneau (1821) together with the discovery of the diphtheria bacillus by *Klebs* in 1883 and its isolation by *Loeffler* in 1884 combined with the study of the toxin produced by this bacillus by Roux and Yersin (1888) the clinical entity and etiology of diphtheria was established. After long experimenting Behring (1890-94) and others found that the serum of animals immune to diphtheria was a valuable remedial agent in the treatment of the disease. Since the introduction of diphtheria antitoxin the mortality of diphtheria has decreased from 55 to 6 per cent and lower. *Trousseau*, the father of modern tracheotomy, popularized this operation and devised the double tube now in use. The high mortality provoked a bitter opposition to this operation which persisted until 1880, when *O'Dwyer*, influenced by this high mortality, began his investigations on intubation which resulted in one of the greatest American contributions to pediatrics, namely the *intubation tube*. The next important contribution was the development of the *Schick test* in 1913 by means of which susceptible individuals might be detected. About 1895 *Babes* and *Park* independently began the use of injections of toxin-antitoxin mixtures to immunize animals for the production of antitoxin. In 1907 Theobald Smith suggested the possibility of producing immunity to diphtheria in man, which was finally accomplished safely by *von Behring* in 1913. Since that time, especially recently, a rapidly increasing number of children have been immunized against diphtheria by the administration of toxin-antitoxin. This procedure sensitizes these individuals to horse serum, and subsequent injections of various serums such as anti-tetanic, scarlatinal, antistreptococcic and the other serums derived from horses may possibly result in anaphylactic reactions. Several such instances are recorded in the literature. It is advisable, therefore, in administering serums to children previously immunized against diphtheria by injections of toxin-antitoxin mixtures, to attempt to avoid anaphylaxis either by desensitization of the patient by means of an initial injection of a very small amount of serum one hour previous to giving the entire dose, or by adding one c.c. of 1:1000 adrenalin solution to the serum immediately before it is administered. In addition a hypodermic injection of appropriate dosage of atrophine sulphate may be of value in avoiding anaphylactic reactions.

As a result of recent investigations at the University of Minnesota a method is being developed by which children may be immunized against diphtheria and also against scarlet fever without being sensitized to serum. This indeed is a most valuable contribution which promises to enable the medical profession to be able to protect their patients against these serious diseases without rendering them anaphylactic to serum. The advisability of the avoidance of sensitization against horse serum evidently has been recognized by certain commercial concerns who are now using goat

serum in their toxin-antitoxin preparations.—*Minnesota Medicine*.

PHYSICIANS ATTACKED FOR NOT GIVING

A Community Chest speaker at a recent Community Chest luncheon in San Francisco drastically criticized the doctors, among others of the "semi-rich" or "great middle class," for not "coming across" with more money for the "chest." Newspapers quote the speaker as saying:

"It is the big class of professional and semi-rich. It is the lawyers, doctors, dentists and other professional men who send their office assistants out to talk to those who are devoting their time to collect the funds needed to adequately care for San Francisco's needy.

"We should shame these people into giving. If they knew that a list of those subscribing was to be published, they would feel obligated to come across. I become blind with rage when I know the needless obstacles our workers are meeting."

The reaction against this tirade was prompt, widely spread, and the end is not yet. As has been repeatedly published, the doctors of San Francisco and elsewhere as well, give to charity in service, figured as nominal value, every year more than the entire collections of the Community Chest. Doctors don't want any special commendation for such helpfulness. It is part of every day's work with every one of them; but they do resent deeply and widely ill-advised criticism of the kind mentioned.

One of the most prominent and most beloved physicians in the city informs us that on the very day that doctors were being publicly attacked at this chest luncheon, he saw nine poor patients in his office, and performed major operations upon two persons, none of whom would ever receive a bill for either medical or hospital services. Incidentally, the hospital thus giving its charity is one dismissed by that notorious Haven Emerson "survey" for the Community Chest as "commercial" and, therefore, by implication beyond the pale. According to the statements of certified public accountants, that hospital rendered free service to the poor last year that cost them over \$75,000 to give. Other similar stories of individual and group interests in the welfare of dependent citizens could be told and verified—but what's the use?

The constantly increasing difficulties of raising sufficient funds to carry forward the program of the Community Chest is, of course, apparent to all. The chief reasons ought to be equally apparent to any competent observer. The dangerous tendencies and the reasons therefor should be fairly evaluated, and the policies and methods of the fundamentally fine principle of uniformity in collecting and allocating charitable funds and services be revised accordingly.—*California and Western Medicine*.

Mental and physical deterioration need not be expected to follow the intermarriage of first cousins, according to Murphy (*Jour. A. M. A.*, July, 1924).

Correspondence

THE MATERNITY BILL OR SEVEN YEARS INSTEAD OF FOUR

HOUSE OF REPRESENTATIVES, U. S.

Washington, D. C.

April 6, 1926.

My dear Doctor Neal:

H. B. 7555 known as the Maternity-Child Welfare bill came up for consideration before the House yesterday. This bill was reported out by the Committee and Mr. Parker, the Chairman, moved to suspend the rules and pass the bill.

A Roll Call was demanded but only Fifty-Eight of us were in favor of this which was not a sufficient number to have a record vote. The House was then divided and there were 218 Yeas and only 44 of us voted No. Two-thirds having voted in favor the rules were suspended and the Speaker declared the Bill passed. The Committee before reporting the Bill amended it extending the time to seven years instead of four.

The State of Illinois refused to be bound by this legislation and returned the amount which was apportioned to it on the ground that the state was competent to perform the service for which this Bill provides.

Knowing you are interested in this Bill I thought you might like to know just what had been done.

Very truly yours,

(Signed)

LOREN E. WHEELER,

21st District, Illinois.

Note: Mr. Wheeler has been re-nominated and we shall make an effort to again elect him in November.

SOME WAYS TO KILL A MEDICAL SOCIETY

1. Don't go to the meetings.
2. If you do attend a meeting, find fault with the work of the officers and members.
3. Never accept office, as it is easier to criticize than do things.
4. Get sore if you are not appointed on a committee, but if you are, do not attend committee meetings.
5. If asked by the chairman to give your opinion on some matter, tell him you have nothing to say. After the meeting, tell everyone how things should be done.
6. Hold back your dues, or don't pay at all.
7. Don't bother about getting new members. "Let George do it."—*Selected*.

Original Articles

NEPHRITIS*

FREDERICK M. ALLEN, M. D.

MORRISTOWN, N. J.

I hesitated to accept the invitation to address your society on this subject, because of my doubt of having anything new to say at this time. Renal-vascular disease is chiefly chronic, and animal experiments which correctly imitate it must also be extended over a number of years. Clinical cases differ widely in their character and course, so that valid conclusions can be based only on long observations of a large number of patients. The experimental animals must also be numerous and checked by a similarly large number of controls, and this work cannot be carried out with the desired speed and efficiency because merely the accurate routine management of such a large material for such a time creates too heavy a financial burden for anyone not enjoying the support of those great combinations of capital which so nearly monopolize the control of American medical research. Hence it is not possible to announce a new discovery in this field every six months, and this evening's paper will contain nothing that has not been said or published before. In a sense, however, the accusation that one says always the same old thing is a compliment. In this instance the old statements, since the time of their first publication six years ago, have been denied by practically all the authorities on this subject and are still not accepted or applied by the majority of the medical profession. Under these circumstances it is a satisfaction to any investigator to go on stating the same observations, knowing that they are right, that they are steadily gaining wider acceptance, and that the necessity of changing position falls upon those who have been in the wrong. Also the subject pertains to the treatment of the disorders which lead all others as causes of death today, and it is therefore highly important to establish the facts.

The word nephritis is useful as a short name for kidney disease, and fortunately it is still retained in this simple sense by most medical practitioners. The attempt to limit it to an inflammation of the kidney may as well be

abandoned. No such line has been drawn precisely between inflammation and degeneration in myocarditis, hepatitis, pancreatitis, retinitis, or most of the chronic changes for which the termination *itis* has been used. I gain the impression that pathologists have only uncertain and arbitrary standards of definition even when dealing with acute inflammation, and that their notions of chronic inflammation are to a far greater extent vague and individual. Nobody yet possesses fundamental biological knowledge of the cause or nature of the anatomical changes in kidney disease, and it is therefore premature to attempt to set up etiologic definitions. Apropos of this is our impression that kidney lesions of the kind heretofore classed as inflammatory have been produced in our experiments by simple dietary overstrain of the function of a kidney remnant. If this tentative observation is confirmed by further experience, it will obviously upset the principal existing classifications of renal diseases.

The intimate association of renal conditions with circulatory conditions has necessarily led to a gross anatomical grouping of renal-vascular or cardio-renal-vascular disorders. The nature of the reciprocal influences is poorly understood, though it seems evident that kidney disease can lead to vascular disease and vascular disease can lead to kidney disease. There is a temptation to carry this division into the histology of the kidney, and distinguish an epithelial group, namely, cases in which the primary or principal lesion is in the secreting renal epithelium, from a vascular group, in which the principal or primary lesion is in the large or small blood vessels of the kidney. There is better success with the recent methods of differentiating between tubular and glomerular lesions, and the concepts of nephritis, nephrosis, renal arteriosclerosis, etc., are winning a justified diagnostic and prognostic status. Nevertheless, authorities seldom agree on the details of classification; mixed cases are numerous; the same case sometimes changes its dominant character with time; and practitioners at large either adopt some falsely arbitrary system or else feel hopelessly confused.

A functional classification seems best to recommend for its practical usefulness to most physicians, because it is definite and has a clear and direct relation to the treatment. The disorders will then fall into two broad groups. In

*Address before the Chicago Medical Society, March 31, 1926.

one group, the important feature is the disturbance of the nitrogen economy, the retention of the waste products of protein. Simple analysis of the blood will demonstrate it, and this demonstration is more important than any nomenclature of nephritis, glomerulonephritis, etc. In the other group, the important feature is disturbance in the economy of salt and water. To this group belong the cases called nephrosis or the nephrotic form of nephritis, or any others which are characterized by edema. Many persons will dispute adding to this same group the cases of hypertension, in which the disturbance of salt and water economy is manifested not by any primary dropsical tendency but by increased resistance in the vascular bed and associated elevation of blood pressure. Nevertheless, this classification is justified by therapeutic evidence. The first group is toxic, and death occurs from true uremia, namely a chemical poisoning by the retained nitrogenous products. The second group might be conceived as osmotic, but as there is no certainty that the disturbance is strictly osmotic, a pseudo-scientific name should be avoided. At any rate, the symptoms and the causes of death in this group are physical or mechanical, due to general or local accumulations of fluid or various circulatory accidents. Obviously there may be mixtures of nitrogen retention with either edema or hypertension, and death may sometimes be due to a combination of true uremia with pseudo-uremia or other physical factors.

The classical conception of all these disorders is that they are self-determined disease entities, running a typical course, some more quickly and some more slowly, but equally inevitably. Even the growing belief that the origin of most or all of the cases lies in an infection, frequently in an acute infection, such as scarlatina, has failed to shake the belief that the disorder, when once established, is inherently progressive and tends to a fatal outcome regardless of treatment. It has always been a mystery why injuries produced by infections or any other methods in the kidneys of experimental animals result either in death or in definitive healing, while the chronicity of the clinical lesions is impossible to reproduce. Much light is shed on this problem by the demonstration of the influence of food in the causation of renal-vascular lesions in animal experiments. I feel some skepticism con-

cerning the interpretation of the lesions produced in some species of normal animals by one-sided diets alone, for the reason that these lesions are apparently not identical with those found in human patients, and the carnivorous diets in question do not seem to represent a demonstrable cause of nephritis in human races or individuals. Nevertheless these experiments have their importance in establishing the principle that renal-vascular lesions can be produced by diet. In our own experiments, we have tried to use the animals which most closely resemble man, and to show that when the kidneys are suitably injured or partially resected, diets high in protein or salt produce the typical symptoms, lesions and progressiveness of clinical nephritis, while these consequences are avoided by avoiding the dietary overstrain of the renal function. It thus becomes possible to understand how chronic kidney disease may follow acute infectious injuries, either immediately or after years of the wear and tear of life. Also a chance is suggested of revolutionizing the traditional doctrine that renal-vascular disease is spontaneously and inevitably progressive.

It is recognized that the conditions in human patients are not as simple as in experimental animals. For example, tissues whose vitality or function is affected by vascular changes may continue to deteriorate merely because the vascular change is permanent, even though all the original causes of the vascular change be removed. There are also numerous theories of continued irritation by cryptogenic toxins from the intestine, from abnormal liver metabolism, and the like. The experimental suggestions, therefore, require confirmation by actual trials in human cases. Our opinion from the clinical studies in the Physiatrie Institute to date is that renal-vascular disorders are ordinarily not progressive after removal of the aggravating influences of infection and functional overstrain. Removal of infections means the elimination of those which can be discovered by standard clinical examinations, and there is usually no ground for assuming the existence of any occult source of toxin. Relief of functional overstrain means restriction of the protein and salt intake to the extent necessary to restore normal chemical conditions as respects the blood analysis and normal physical conditions as respects freedom from edema or hypertension. The

damaged organs are still able to bear a surprising degree and duration of functional overstrain. Therefore, so far from deteriorating spontaneously, they ordinarily maintain their function so as to permit indefinite continuance of life if the chemical and physical abnormalities are merely reduced within moderate limits. But when either nitrogen retention, edema or hypertension remains excessive in spite of the strictest dietary control, the severity of the case obviously precludes the desired functional relief, and the progressive aggravation of the condition ordinarily leads to death within a few months or years.

Two qualifications should be added to these general statements. One is that the restoration of normal conditions by artificial stimulation is not equivalent to the result produced by sparing of the function. Hypertension may occasionally be reduced by nitrites, bleeding, bed rest, or the like, with benefit to the extent of temporarily relieving headaches or warding off an impending apoplexy, but it is improbable that the progressiveness is thus appreciably arrested. Also, my personal belief is that cardiac, nephritic or any other edema should be cleared up as far as possible by salt-free diet, and that it is wrong to continue giving salt and depend upon the diuretic action of digitalis, the purin drugs, the acidosis produced by calcium or ammonium chloride, or the remarkably powerful new mercurials such as novasurol and salyrgan. If an edema resists the strictest salt-free diet, it is doubtless better to remove it by these artificial means than to allow it to persist, merely because of the hope of improved circulatory conditions resulting from its removal; but the tendency to progressiveness can scarcely be arrested in the same way by overdriving of function as by sparing of function. The other qualification pertains to refractory cases, which are not always hopeless, because some of them, which seem to resist dietary control at first, show gratifying improvement after many months of continued rigid treatment. This exception applies more to hypertension than to either edema or nitrogen retention.

The medical profession are already convinced of the value of protein restriction for azotemia and of salt restriction for edema. There will probably be a general willingness to credit these measures with at least some influence toward

checking progressiveness. If I were to recite a series of histories of patients with the usual albuminuria and casts, together with moderate nitrogen retention or edema, or both, who with careful dietary restriction have maintained excellent subjective health for five or six years with no sign of downward progress, such evidence would not be accepted as proving an arrest of progressiveness, because some cases are known to be benign and relatively stationary in character. Our material is not large enough to demonstrate any general law of non-progressiveness in cases of this group. We are interested, however, in observing how long life can be extended in some cases of extreme severity with the most acutely threatening prognostic signs.

One case is of a man who was first treated in the Rockefeller Institute Hospital for diabetes, and who came two years later to the Physiatrie Institute with a severe nephritis superadded. There was edema, hypertension of 190 to 200 mm., blood urea about 100 mg. per 100 cc., blood creatinine of 16 mg. maximum (never reduced below 9 mg. per 100 cc.), anemia to about 2,000,000 red cells, and total blindness from retinitis. With appropriate control of the diabetes, and with salt-free diet and minimum protein allowance for the nephritis, the impending uremia was averted, and notwithstanding his blindness the patient continued active laboratory work as a physicist for two years, when he died rather acutely at his home.

Another example is a woman aged 51, with moderately severe diabetes together with nephritis manifested by edema, hypertension of 220/110, blood urea up to .88 mg. per 100 cc., normal blood creatinine, myocardial impairment secondary to the long standing hypertension, and partial blindness due to retinitis. She had shown marked downward progress since the beginning of her illness years previously, and was in critical condition when received. The diabetes was brought under control by diet and insulin, the edema and hypertension were abolished by salt-free diet, and the blood urea was reduced to normal by limitation of protein to 30 and later to 50 gm. daily. The progress was interfered with by recurrent flare-ups of a chronic cholecystitis. The risk of operation was therefore undertaken, and recovery after the cholecystectomy was smooth and rapid. The patient is now in good condition one year after beginning treatment, and it remains to see how long she can be kept so.

A third patient is a boy of three years, who for the past several months has had nephritis with fever of 100 or 101° of undetermined origin, with edema and serious weakness. He was received in convulsions. The urine contained heavy albumin, casts, red cells, and small numbers of leucocytes. There were no signs of endocarditis, and no discoverable foci elsewhere, so it has been assumed that the infection is in the kidneys. Urinary antiseptics have proved useless. The maximum blood urea was 230 and the maxi-

mum blood creatinine 14.6 mg. per 100 cc. The treatment was by bed rest, exclusion of salt, and limitation of protein to 10 gm. per day with the highest possible quantities of carbohydrate and fat. It has not been possible to reduce the blood urea below 50 or the creatinine below 9 mg. per 100 cc. The edema has disappeared and the child feels well. The temperature remains almost normal now that bed rest has been abandoned and the child is allowed to be out in the sun. The prognosis seems hopeless but the question is how long life and subjective health can be preserved.

In turning to the topic of hypertension, we enter a field of greater dispute. I may say briefly that we consider all the older treatments to have only symptomatic value or none. We are also convinced that the cause is not an intoxication from any product of protein. In this connection it should be noticed that the use of liver extract, which has gained considerable recent publicity, is based on the idea of a toxin derived from protein, and the liver is thought of merely as an organ which is important in protein metabolism. Not only is this theory unfounded and contrary to well established facts (which show hypertension to be unrelated to the protein economy), but also our trials of one of the liver extracts now under investigation have convinced us that in dependable cases under accurate control it does not reduce the blood pressure by a single millimeter. The liver extract is said to neutralize the pressor effect of guanidine, and such a fact merely strengthens the belief that guanidine hypertension is something entirely different from clinical hypertension. Dr. Macallum in a recent discussion deprecated the introduction of liver extract into clinical use before any adequate scientific foundation had been laid for it. It would not be at all surprising if some previously unknown hypotensive substance should be obtained from the liver, but it is fallacious to anticipate that this will have either a causal or a therapeutic connection with clinical hypertension.

In opposition to the traditional prohibition of meats and to any newer speculations of a nitrogenous toxin, I have for some years defended the view that the exciting dietary cause of hypertension lies not on the chemical but on the osmotic or physical side of metabolism, in other words, that it represents a disturbance in the salt and water economy and is most effectively controlled by exclusion of sodium chloride and

related salts from the diet.* With seven years' experience and a material of over five hundred cases, I feel now assured of the correctness of this position. Statistics have been previously published, and it need only be added that they continue equally favorable. Figures must vary according to the type of cases comprising any particular group, but the variations are not so great when attention is centered upon those with diastolic pressures in the neighborhood of 120 mm. In addition to these general statistics, the best clinical evidence seems to be furnished by the records of individual cases which were in a stage of advanced severity when received. The three following are examples under long observation:

Case. 552. Female. American. Age 50. Married. Housewife. Admitted April 15, 1921.

Complaint: Occipital headache, nervousness, irritability, and palpitation of heart.

Family history: Mother died at 60 of heart trouble. Father died at 70 of pneumonia. One brother and one sister have tuberculosis.

Past History: Had the usual childhood diseases. Was always in fairly good health, with the exception of chronic gastritis between the ages of 21 and 30. Several Wassermann tests performed during the past six years have been entirely negative. Patient married 14 years; has had three miscarriages. In 1909 had eclampsia, and abortion was performed. She had numerous convulsions with unconsciousness. At that time the blood pressure was found elevated, and albumin and casts were present in the urine.

Present illness: Since 1910 she has suffered from occipital headaches, which come on early in the morning but often persist until late at night and keep her awake. She has had albumin in the urine constantly since 1913, during which time she has suffered from shortness of breath, especially on exertion, and a clutching sensation in the throat. In April, 1915, she had sudden aphasia; was clear mentally but was unable to call the names of objects and her speech was indistinct. She clearly recognized her friends but was unable to call them by name. An hour later she had twitching of the muscles of the right side of the body, followed immediately by complete paralysis. The paralysis was of a temporary nature and cleared entirely after about two weeks. In October, 1915, she had a sudden stroke, accompanied by unconsciousness and convulsions. The blood pressure was found 250/140. She recovered slightly from the stroke at first, but has never regained sufficient control of the arm to use it for writing or sewing. She has felt well with the exception of nervousness, irritability and dyspnea. For the past five years she has been on a closely restricted protein diet and has used principally cereals, vegetables, fruits, butter, bread and cream.

*Allen, F. M. Treatment of kidney diseases and high blood pressure. Physiatrie Institute, 1925.

Blood pressures have ranged from 180 to 240 mm. systolic. At no time has she had edema. She has led a life of practical invalidism, the family insisting that she perform no work and that she remain in bed or quietly about the house the greater part of the time. She has been to numerous health resorts in the past five years in order to obtain relaxation. She has gained 30 pounds in weight in the past four years.

Physical examination: Well nourished adult female. Height 5 ft. 4 in. Weight 136 pounds. The skin is clear. The face is flushed and there are a few very fine dilated venules over the cheeks. She walks with hemiplegic gait. There is paralysis of the right arm and leg. The hand remains partially adducted. She is unable to grasp small objects or to hold firmly other objects when placed in the palm. The grip of the right hand is very weak. She has slight residual accommodation. Eye-grounds show definite sclerosis. The terminal endings of some of the arteries are very small and threadlike. There is no choroiditis. Heart is enlarged 2 cm. to the left. On percussion, the left border of the heart is 17 cm. from the mid-sternal line. Increased dullness over the manubrium. Well marked pulsation can be felt in the sternal notch. There is no murmur at the apex. Aortic second sound is accentuated. Blood pressure 226/118. Liver is palpable but not tender. Reflexes of the right arm and leg are increased. Urine shows faint trace of albumin with a few hyalin casts.

Progress in the Institute: Treatment consisted of rigid salt-free diet with unlimited protein, fat and carbohydrate. She was persuaded to eat meat and eggs in normal quantities. She was encouraged to take considerable outdoor exercise each day, instead of the complete rest and avoidance of exertion which had been her former rule. The exercise was graduated so that upon discharge she walked two miles or more about the grounds and was able to climb moderate slopes. The blood pressure gradually fell, and the general strength increased. Dyspnea, although present on exertion, improved markedly during her stay. She complained of palpitation on only a few occasions. Fixation of the urinary concentration is indicated by the fairly constant specific gravity, never above 1013. The urinary chloride fell below 0.5 gm. within 4 days. An elevated output, April 29 to May 2, apparently represented the emptying of some chloride store, and the blood pressure then fell further to 172/100. The patient was discharged May 12, 1921, and advised to take a normal diet, with exception of salt, and to exercise as she desired. She has since remained at home with continued good health and blood pressures similar to those at discharge.

Case 63. This patient is a Jewish housewife, age 59 years. Her parents and probably several other relatives have had hypertension or nephritis.

The personal history is unimportant. She has four living children, and finished the menopause 15 years ago. She has been feeling more and more weak and unwell in an indefinite fashion since that time, but had no diagnosis or treatment until June, 1919, when she became completely incapacitated by dizziness and

weakness. The physician who was then called found very high blood pressure, and sent her to the country for a complete rest. As she was no better after several weeks, another physician was called, who continued the rest treatment and also prescribed a very limited, low protein diet. In August the patient returned home and continued to spend her entire time in bed because of dizziness and fainting on attempting to stand. She was first seen in consultation on September 16, when the blood pressure was 220/130. The patient was then transferred to a hospital under the care of another consultant for the purpose of the strictest possible bed rest and diet and drug treatment. October 3, being unimproved, she entered this Institute.

The essential features of the physical examination were advanced arteriosclerosis and senile changes, moderate retinitis, and threatening heart failure. The blood pressure was 240/120. Under strict diet her blood pressure gradually fell to 168 systolic, 136 diastolic. The edema cleared up completely, the result being a loss of weight from 120 to 86 pounds. The physical state changed to one of complete comfort and ability to exercise moderately without difficulty.

In the ensuing years she has mostly adhered to her diet, but it is striking that she has had a return of symptoms whenever she has departed from it. On this account she has been readmitted to the Institute for brief periods four times. Her general progress has been an improvement, so that today she weighs 130 pounds, without edema, maintains blood pressure about 168 systolic and 92 diastolic and enjoys very satisfactory health and endurance.

Case 53. This patient was an American housewife, aged 63 years, with negative family history. She was well up to the time of menopause, then, at the age of 44, began to suffer from attacks of weakness, dyspnea, palpitation and dizziness. These symptoms were similar to those which subsequently accompanied her hypertension, but they ceased at the age of 48 after a dilatation and curettage, and no blood pressure readings were made. In the same year the patient's back was broken in the region of the 12th thoracic vertebra, and she may have sustained internal injuries. She was incapacitated for a year, and slight deformity with limitation of movement remains permanently. A year later she was seriously ill with diphtheria, followed by partial paralysis, passing off after 6 months. About a year later she was ill for three weeks with typical gallstone symptoms; several less severe and definite attacks have occurred since. From that time onward she has been increasingly incapacitated by violent headaches, tinnitus, vertigo, weakness, and palpitation. The diagnosis of hypertension was made 10 years ago, and for the past 5 years the systolic pressure has never been found below 200 mm. and twice during attacks was above 300 mm., while the diastolic pressure has ranged between 120 and 160 mm. She has undergone prolonged treatment with the usual bed rest, drugs, low protein diets, catharsis and bowel irriga-

tions. She has always used salt in excessive quantities.

At her first examination, September 22, 1919, moderate cardiac enlargement and arteriosclerosis and slight retinitis were the significant findings. There was nocturia, and the 24-hour urine volume was between 3 and 4 liters. The blood analyses and renal function tests were normal, except for plasma chlorides of 640 mg. per 100 cc., and a chloride threshold about 610 mg. Salt-free diet without any other change in her habits or place of living gave prompt relief, so that within 3 days symptoms were greatly diminished and the blood pressure remained below 200 mm. By October 7 the pressure had gone down to 144/75. This relief continued most of the time up to 1921, but there were two outstanding peculiarities. First, on the strictest salt-free diet the plasma chloride was generally above 600 mg. per 100 cc., never below 590 mg. per 100 cc. One gram of salt in the diet sufficed to bring back hypertension and accompanying symptoms, but the patient never felt any ill effects from the strict salt privation, unless perhaps a slight lack of strength. Second, she was seriously troubled with indigestion and constipation, and was subject to numerous acute attacks characterized by diffuse abdominal pain, vomiting, intense headache, stupor, and hypertension of 210 to 230 mm. Sedatives, purgation and bleeding were found to be the only means of relief. Finally, in April, 1921, operation was decided upon, chiefly on the basis of the definite gallstone history. The thickened gall bladder was found tightly contracted upon a single cholesterol stone the size of a pigeon's egg, and was removed. Dense adhesions involving the liver, stomach and duodenum were broken up. The patient has since remained free from the abdominal attacks and from hypertension, except for occasional elevations to 160 or 170 with some minor infection such as a cold. She remains a semi-invalid, on account of weakness due to arteriosclerosis and the consequences of her former infections. Her chloride threshold is as high as before, strict salt-free diet is still necessary, and addition of salt to the diet invariably causes a return of hypertension and accompanying symptoms. This condition still continues in this her seventh year under treatment.

In conclusion, we may say that though no case records can be considered decisive in this subject, our clinical experience is at least in harmony with the suggestion derived from the animal experiments, that renal-vascular disease is not ordinarily progressive when functional overstrain and other known aggravating influences are eliminated.

Doctor—"Yes, Sam, you have quite a bad cough, but it will go away soon."

Sam—"Ah knows that, Doc, but what worries me is will ah go with it."

—Selected.

RECENT ADVANCES IN UROLOGY*

DANIEL N. EISENDRATH, A.B., M.D.

CHICAGO

It is impossible at the present day to keep in touch with the rapid advances in every field of medicine. One of the objects of graduate courses is to give those who cannot specialize, short "brush up" courses in which various subjects are brought up to date for them. I intend this evening to follow this plan and to direct your attention to a few recent developments in the special field of urology. We will confine our review to advances which would be of aid in daily practice.

Renal and Ureteral Colic. This familiar group of symptoms or syndrome has usually been interpreted to be due in the majority of cases to a calculus which was passing from the kidney towards the bladder. In a small proportion of individuals the syndrome was ascribed to the kinking of the ureter of an abnormally mobile kidney. We now know that there are a number of other conditions which can cause the same colicky or dull aching pain as the two just named. This will explain to some of you why you have been disappointed not to find a calculus shadow or to palpate a "dropped" kidney in such cases. It is true, as we shall see later, that in about ten per cent. of renal and ureteral calculi, their composition is such that they will not cause a shadow on the radiographic film. But even leaving aside these "shadowless" calculi, we now know that a clinical picture resembling in every detail that due to a calculus or an acute ureteral kink with resultant increased intrarenal tension can be due to the following:

- (a) Ureteral stricture,
- (b) Infection of the ureteral wall or of the renal pelvis,
- (c) Renal crises in tabes,
- (d) Renal tuberculosis,
- (e) Certain forms of chronic nephritis (*dolorosa*),
- (f) Renal tumors with passage of blood clots.

I will not take these up in detail here because we shall do so later. My only object is to direct attention to the necessity of a thorough urologic study in every case of renal or ureteral pain in which you do not feel satisfied that a calculus or

*Read and illustrated by slides before the Kankakee, Illinois, Medical Society, Oct. 22, 1925.

an abnormally mobile kidney is the underlying cause.

Significance of Hematuria. Not so very long ago we were accustomed to believe that when the urine contained blood microscopically in the form of so-called red corpuscle "shadows" that the source was in the kidney. Again that when clots were present and there was an absence of the syndrome just referred to as "ureteral colic,"

change in the lower urinary tract, it is a neglect of duty towards the patient not to advise a thorough examination with one or more of the modern diagnostic methods, such as cystoscopy, ureteral catheterization, pyelography, etc.

Pus in the Urine (Pyuria). In equal measure as just mentioned, it is fallacious to draw any conclusion as to the seat of infection from the number of pus corpuscles in the urine. I

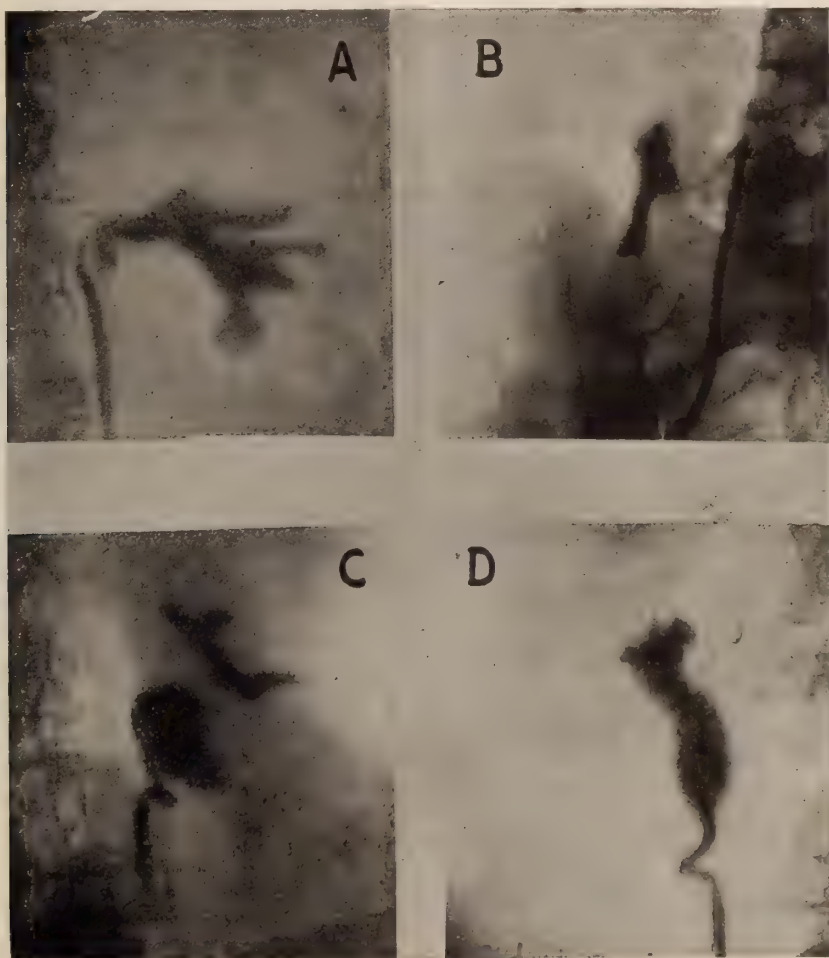


Fig. 1. Pyelograms Illustrating "Filling" Defects

A, from case of hypernephroma of upper half of kidney; B, from case of hypernephroma of upper pole of kidney; C, from case of carcinoma of kidney; D, from case of hypernephroma of lower pole.

that the source of the bleeding was from the bladder or some other portion of the lower urinary tract. Finally that when the blood was intimately mixed with the urine, that the source of the blood was renal. The sooner we abandon these notions, the more often we will be able to recognize the actual source of the bleeding. It is necessary today to remember that unless we can palpate a kidney tumor or some similar

well recall being taught that the presence of certain types of epithelial cells, i. e., those with long tapering ends, indicated a renal origin of the pus. We must drop these notions and learn that the chemical, microscopic and bacteriologic study of the urine is only one of a number of factors which enter into the making of a diagnosis of disease in the urogenital tract.

Value of Pyelography. Although there is still

some opposition to its routine application, there are many of us who consider it an almost indispensable portion of a complete urologic study. By filling the renal pelvis and ureter with a solution of sodium iodide (12.5 per cent.) and the bladder and urethra with a solution of sodium bromide (25 per cent.) or barium, we are able (with a previous knowledge of normal standards) to detect changes in the contour, location and size of the lumen of the renal pelvis, ureter, bladder and (to a less satisfactory extent) of the urethra which no other method of investigation gives in nearly as complete a manner. I will briefly enumerate a few of the benefits of

proportion of cases of renal neoplasm in which the pyelogram resembles that of the normal pelvis or of a hydronephrosis. In these exceptional cases we have other findings such as displacement inwards or outwards of the ureter (Fig. 2) or a kinking at the junction of the ureter and renal pelvis.

These exceptional changes are the usual findings in retroperitoneal tumors, for example, sarcoma, and again demonstrate the advances which have been made in a diagnostic direction.

(b) Renal and ureteral calculi.

Ureteropyelography enables one to say whether or not a given shadow is within the renal pelvis

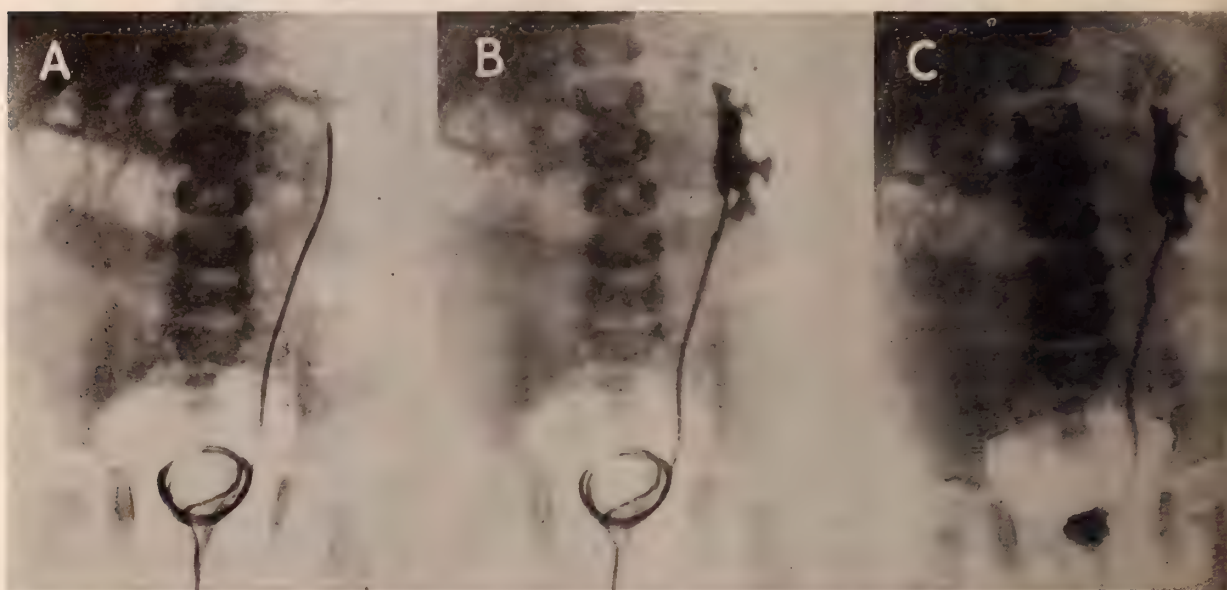


Fig. 2. Three Views in Case of Retroperitoneal Sarcoma in Child of Two, Simulating Renal Neoplasm

A, displacement outwards of opaque catheter; B, normal pyelogram before withdrawal of catheter showing that tumor was extrarenal; C, catheter withdrawn to show how ureter is displaced outwards and kidney rotated

the employment of these opaque media combined with radiography:

(a) In the differentiation of renal or other retroperitoneal neoplasms from those of intraperitoneal viscera.

This is of great importance to the internist and abdominal surgeon because the justification for "exploratory laparotomy" is rapidly disappearing. In the majority of cases of kidney tumor, there are changes in the configuration of the pyelogram (Fig. 1) which enable one to say that the abdominal tumor is of renal and not of intraperitoneal origin, for example, spleen, liver, etc. If such "filling defects, spider or dragon deformities" are absent, we have a certain small

or ureter respectively or is an extraneous one. If the shadow is included in that due to the opaque medium, we can say that it (the shadow) is a calculus (or an area of calcification in a neoplasm or a tuberculous kidney). In a similar manner this method enables one to localize the calculus and thus plan the type of operation (pyelotomy, etc.) to employ as well as to visualize the degree of destruction of the renal parenchyma which the calculous disease has given rise to.

(c) Renal tuberculosis.

Pyelography is of comparatively little value, because none of the changes are characteristic

and there are other methods which are far more reliable.

(d) Hydronephrosis or pyonephrosis (nontuberculosis).

When there is an obstruction at or distal to the outlet of the renal pelvis we can determine the degree of hydronephrotic atrophy by the degree of dilatation of the renal pelvis or ureter as shown by ureteropyelography.

Similarly when there is extensive destruction of the parenchyma (pyonephrosis) this method is a valuable adjuvant when the question of nephrectomy is being considered.

Ureteral Stricture. Few subjects during recent years have aroused more interest. Although I do not agree with Dr. Hunner as to their frequency, we must concede that a search must be made for the presence of a possible stricture of the ureter in every case of obscure abdominal pain, in cases of recurrent renal calculus or persistent renal infection as well as when a hematuria occurs spontaneously without another cause being found.

The employment of special bulbous bougies is not indispensable. We can secure equally as much information by introducing the ordinary ureteral bougies and supplementing the data obtained by making a ureterogram with the catheter completely withdrawn.

RECENT ADVANCES IN OTHER RENAL AND URETERAL CONDITIONS

Space permits of only a very brief outline of the principal changes in viewpoint during the past ten years in the following:

Renal Tuberculosis (Chronic). This is a unilateral condition during the first two years in the majority of cases. If the diagnosis can be made during this period and the involved kidney removed, the percentage of permanent cures is nearly sixty. The clinical picture is that of a chronic cystitis in such a large number of cases that one should bear in mind that the underlying cause of the symptoms in such individuals is renal and not vesical whenever a case fails to respond to treatment. The guinea pig inoculation test is considered too slow and too unreliable by the majority of urologists.

Renal and Ureteral Calculi. I have already referred to the value of ureteropyelography in confirming the presence of calculi aided, of course, by the use of the opaque catheter. Equally

as much progress has been made in the treatment of both renal and ureteral as well as in the question of recurrence.

As to renal calculi, we have learned to employ a very conservative method of operation, namely, pyelotomy. Through an incision into the renal pelvis supplemented as the individual case requires by a small incision (nephrotomy) through the parenchyma, nephrolithotomy has been robbed of many of its immediate and remote unwished for sequelae. We have learned to counsel that only calculi which more or less completely block the outlet of the renal pelvis should be removed. Large coral or multiple large calculi should be allowed to remain or a nephrectomy considered. Through the aid of pyelography and the use of functional tests (such as phthalein and indigocarmine) we can secure a fairly accurate picture of the degree of destruction of a kidney, aided of course by chemical examination of the blood.

In cases of bilateral renal calculi, conservatism should be our guide. We only advise operation when a calculus is so situated as to greatly interfere with the renal function on one or both sides.

Our views as to the causes of formation and the possibility of reformation (recurrence) have undergone considerable change.

The presence of ureteral calculi is not considered an indication for operative intervention today unless certain conditions exist. These are (a) that the shadow is that of a relatively large calculus, for example, more than 1 cm. in width; (b) that there is a severe complicating renal infection with high fever and finally (c) that an anuria is present. Under all other circumstances an effort should be made to deliver the calculus by non-operative means. These involve the dilatation of the ureter and injection of oil or similar substances to facilitate the expulsion of the calculus. By this method we are able to relieve about three out of four cases of ureteral calculi without operation. The latter is not infrequently followed by such a degree of fixation of the ureter and stricture formation that one hesitates to advise operation without having given the nonoperative method a fair trial. We have also learned that there is a close relation between ureteral calculus impaction and stricture formation and one should regard it as his duty to investigate as to the possible presence of such a

stricture of the ureter in every case of ureteral or renal calculi.

Nephritis from a Surgical Standpoint. This is not a new development as both Harrison and Edebohls many years ago called attention to the advantages of decapsulation in chronic nephritis. Since that time the indications for operation have been more sharply limited, so that at present there are practically only two conditions in which decapsulation offers any hope of relief. These are: (a) cases of chronic hemorrhagic nephritis in which the outstanding clinical symptom is severe persistent bleeding from one or both kidneys, and (b) chronic painful nephritis in which pain is practically the only complaint. For the latter group Papin has suggested division of the nerves at the renal pedicle. It is doubtful, however, whether this accomplishes more than the less difficult decapsulation. In all other forms of nephritis, surgery has but little to offer. This is particularly true of the acute nephritides such as one sees after scarlatina, mercury poisoning, etc., as well as in the more chronic nephritides whether they involve the tubules predominating the so-called nephroses or whether they are chiefly glomerular in localization.

The Treatment of Renal Infection. Before closing this bird's eye view of some of the principal recent advances in upper urinary tract surgery let me direct your attention to the changes in viewpoint as to the treatment of both acute and chronic renal infections. We have become more and more conservative and those who remove a kidney today must be ready to show why nonoperative methods would not have accomplished as much without sacrifice of a very important even if paired organ. Through the use of either intermittently or continuously for a period of days to weeks of the ureteral catheter supplemented by internal and local antiseptics, many cases of severe renal infection can be brought under control and eventually cured. This is especially true of the acute cases of pyelitis such as one sees during infancy and childhood, during pregnancy and the puerperium as well as independent of these conditions. It is impossible to describe the technic of application of this principle of combined drainage and lavage of the renal pelvis here because it needs to be modified for the individual case. Suffice it to say that it has completely changed our prognosis in renal infections and that it should

be given a fair trial before operative intervention is decided upon.

THE TREATMENT OF ENDAMEBIASIS ESPECIALLY WITH STOVARSOL*

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The resistance and rebelliousness of the endameba to treatment has caused the physician much concern. Ipecac with its derivatives and the organic arsenical compounds usually relieve the symptoms of acute endamebiasis promptly; but the extermination of the parasite is such a difficult problem that it is not infrequently the custom to combat the acute exacerbations without making further attempts to rid the patient of the organism.

In the last five years, I have seen an increasing number of patients in whose stools *Endamoeba histolytica* was identified. Some of these patients were so-called carriers with or without an antecedent history of an attack of dysentery. Others were suffering from the more active phases, often with the amebic ulcerations revealed by proctoscopic examination. In a third interesting group there was an indefinite history of abdominal distress with only very occasional attacks of diarrhea. The fourth group consisted of patients with involvement of the liver; in some the possibility of hepatitis was suggested but in few was there true abscess. In none of the seventy-four cases in this series was chronic arthritis associated, but in view of the observations of Kofoed and his co-workers, this phase should be further studied.

The widespread distribution of the parasite throughout the temperate zone has been recognized for several years. As the clinic draws chiefly on the neighboring states, it is natural that the majority of cases should be in this central northwest portion (Fig. 1). I believe that the apparent increase in patients harboring *Endamoeba histolytica* is due more to careful investigation than to an unusual spread of the parasite.

In a recent article¹ I recorded a clinical study of 533 cases in which the endamoeba was identified. In the present series, all the patients were found to harbor the *Endamoeba histolytica* alone

*Read before the Saint Clair County Medical Society, East St. Louis, Illinois, April 1, 1926.

or in various combinations with *Endamoeba coli*, *Endolimax nana*, *Giardia intestinalis*, *Trichomonas hominis* and *Chilomastix mesnili*.

It is important to bear in mind that by the method used in the clinic a single examination of the stool may reveal the organism in approximately 70 per cent of the cases. By two examinations on successive days the percentage is raised to 90, and by three examinations to 98. Hence, it is advisable to examine at least three stools. In an occasional case in which, although

The organic arsenical compounds, arsphenamin and neoarsphenamin, stovarsol,⁶ treparsol² and acetylarsan³ are valuable; the last three compounds are relatively new and originated with the French. Of these three, I have used only stovarsol, and results obtained with this drug constitute the chief subject of this report.

During the last year, I have followed the immediate results of the treatment of seventy-four patients who harbored *Endamoeba histolytica*. This number represents only a small proportion

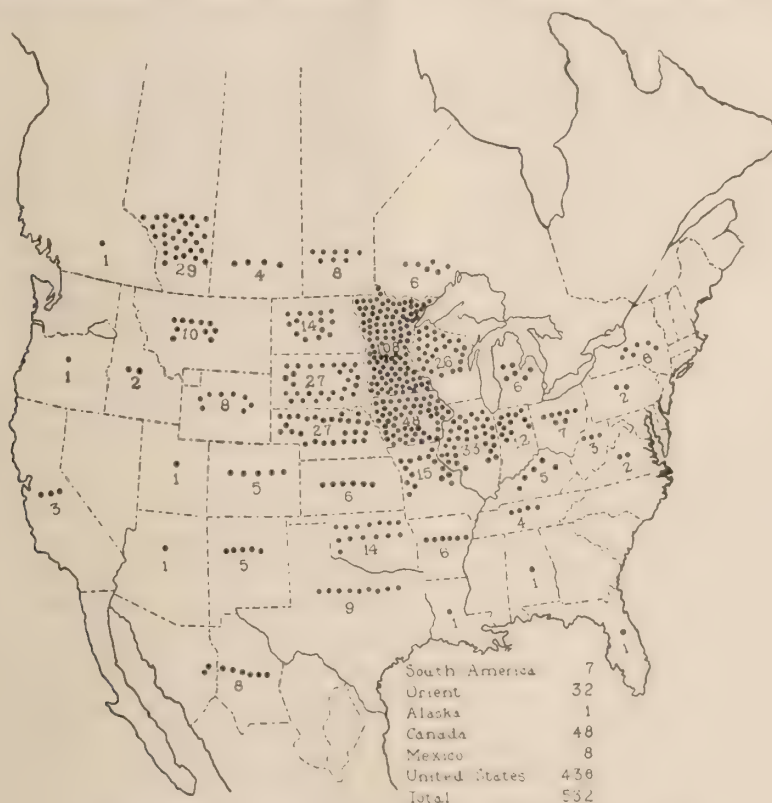


Fig. 1. Cases of endamebiasis according to States.

no endameba was found in the stool, proctitis of the endamebic type was evident, scrapings from the bases of the ulcers have revealed the organisms.

Ipecac coated with phenyl salicylate, emetin hydrochlorid, bismuth-emetinioidid, bismuth subnitrate in very large doses, and chapparo amargosa constitute some of the more frequently used drugs. Various types of colonic irrigations such as quinin, isotonic solution of sodium chlorid, and kerosene, have found favor with many workers. Iodo-oxybenzenephthyridiu sulphonate (Yatren⁷) was prepared in Germany; no patients in this series have been treated with it.

of the cases in which *Endamoeba histolytica* was found.

The first few patients of these groups received varying types of treatment but I wish to refer particularly to those who received stovarsol (Table 1). I scrupulously avoid using the word "cure," since endameba is so tenacious that only in long-observed cases with repeated examinations could cure be determined. Repeated examinations were possible in only a few cases.

It is my custom to give 0.25 gm. of stovarsol three times daily, with meals. The tablet is chewed with the food. This dosage is continued for six days; at first it was continued for seven

days but later discontinued at the end of six for reasons explained further on. After a rest of from ten to fourteen days, I repeat the course, but prolong it to nine days by administering only two tablets daily. This rest interval may appear rather long but it may help to insure complete elimination of all the arsenic and thus aid in avoiding complications.

TABLE 1
COMPARATIVE RESULTS WITH VARYING
TYPES OF TREATMENT

Type of Treatment	From Two to Many Negative Stool Examinations, After Treat- ment, Cases	Positive Stool Examination, After Treat- ment, Cases	Known to Have Recurred, Cases
Emetin hydrochlorid, 10 gr. Arsphenamin, 3 in- jections Bismuth-emet- in-iodid, 36 gr.	6	0	2
Bismuth-emetin-iodid, 36 gr.	0	1	0
Arsphenamin, 3 in- jections	1	..	..
Emetin hydrochlorid, 10 gr. Bismuth-emetin-iodid 36 gr.	1	1	..
Emetin hydrochlorid, 4 gr. Stovarsol, 4.5 to 5.25 gm.	1	..	..
Stovarsol, 4.5 to 5.25 gr.	61	2	6

There were sixty-four patients who received stovarsol; one patient, who was suffering from a severe cold at the time she was first observed, received 4 grains of emetin to check the active symptoms and, later, a course of stovarsol.

In sixty-one cases (96.8 per cent of the group of sixty-three in which stovarsol alone was given) there were from two to many negative examinations of the stool after one course of the drug (Table 1). In twenty-two cases, in which there was associated ulcerative proctitis of the endamebic type, the healing was practically complete within from eight to ten days after the beginning of treatment. In this group of sixty-three, there were five cases in which further tests were possible from six to eight months after cessation of all treatment. In each of the five from three to four negative stool examinations were then obtained.

In contrast with those out of eighty-five patients,¹ who received a month's course of treatment consisting of from 12 to 18 grains of emetin hydrochlorid, chapparo amargosa by mouth and kerosene irrigations of the colon, the examination of the stool was negative on completion of the course in only 41 per cent. However, it must be noted that the subjective symptoms were nearly always relieved and this figure, 41 per

cent, relates only to the negative examinations of the stool. Further types of treatment yielded negative stools in from 58 to 70 per cent.

There is every reason to expect recurrence in more than six of this group of sixty-one cases; yet the ease and facility of treatment, there being no hypodermic injections and no colonic irrigations, together with the saving in time and expense, more than justify the utilization of a drug such as stovarsol. Treparsol and acetylarsan may be as efficacious, and further reports on the use of these drugs will be awaited with much interest.

The six known cases of recurrence illustrate three interesting points: First, if the disease recurred it was usually within from two to fourteen weeks. Second, in four of the six the use of stovarsol was repeated with only temporary improvement or none at all; this emphasizes the importance of using some other drug when the disease recurs, either a member of the ipecac group or possibly yatren. Third, in five of the six recurrent cases ulcerative amebic proctitis was present. In another series¹ the disease recurred in ten out of nineteen cases in which there was ulceration. These are both very small groups, yet it would seem to indicate that the possibility of recurrence is much greater in cases in which there is gross ulceration of the lower bowel. However, the disease was known to recur in only 23.7 per cent of the ulcerative cases in which stovarsol was used as compared with almost 50 per cent of those in which a combined course of emetin was given (Table 2).

TABLE 2
CASES WITH AMEBIC ULCERATIVE
PROCTITIS

Type of Treatment	Examination of Stool Negative		Recurrence	
	Cases	Percent	Cases	Percent
Stovarsol	17	77	5	23
Emetin course	9	47	10	53

In my experience with stovarsol, only two complications have arisen. On account of the close relationship of stovarsol to the arsphenamin group, I was watchful for such complications, such as gastro-intestinal disturbance, toxic erythema and exfoliative dermatitis. A few patients complained of increased flatulence and slight nausea, but in no case was there any vomiting or diarrhea. In the group of sixty-four cases in which stovarsol was administered, toxic

erythema appeared in four (6.2 per cent). In these four it was noted that the symptoms seemed to appear suddenly on the seventh day of treatment. It may also have been purely coincidental that each patient had suffered from acute upper respiratory infection one or two days previous to the onset of the erythema. For the last six months I have withheld stovarsol if acute upper respiratory infection was manifested, and always limited the first course to six days (eighteen tablets). Under this regimen toxic erythema has not occurred. Possibly further cases will occur but they should be less frequent. Only two of the four patients were ill enough to remain in bed and the complicating symptoms disappeared within a week. One of the patients suffered a recurrence of diarrhea and proceeded to take stovarsol without medical advice. The erythema reappeared.

Johns and Jamison reported two cases of toxic erythema in a group of forty-six cases, and I have received several letters reporting similar experiences. Three other patients who suffered recurrences were so benefited by their original two courses of stovarsol that they purchased the drug and kept it on hand. One man took more than seventy tablets, at the rate of from four to six a day, without apparent injury to himself, and, as he persisted with the drug, the endameba likewise became indifferent to it. This re-emphasizes the value of interrupted treatment in preventing the organisms from becoming emetin-fast or arsenic-fast.

The amount of arsenic given in one course of stovarsol (4.5 gm.) is about 1.4 gm. This is a much larger amount than the patient receives with arsphenamin or neoarsphenamin, which is given over a period of from four to five weeks.

In five injections of arsphenamin, there would be about 0.7 gm. of arsenic and in five injections of neoarsphenamin from 0.5 to 0.6 gm. of arsenic. However, the so-called nonspecific effect of the complex organic molecule may be more important than the amount of arsenic. The valence of the arsenic may make a difference. Arsphenamin and neoarsphenamin contain trivalent arsenic while stovarsol as well as treparsol have arsenic in the pentavalent form.

In a series of twenty-three cases in which arsphenamin or neoarsphenamin was given either primarily or after recurrence following treatment with emetin, the results were apparently

favorable in eighteen (78 per cent). This is to be compared with sixty-three cases in which stovarsol was given; apparently favorable results were obtained in fifty-three (84 per cent). Certainly, time and expense favor the use of this newer arsenic compound, although the physician has been more than thankful for the older organic arsenicals.

CONCLUSIONS

1. The wide distribution of *Endamoeba histolytica* must be appreciated by both physicians and public health authorities.

2. Emetin continues to be an invaluable drug in the treatment and seems to be particularly effective in rapidly controlling most of the acute phases of endamebiasis.

3. The organic arsenical compounds would seem to be more effective in eradicating the parasite than are ipecac and its derivatives.

4. The possibilities of cure depend more on persisting with varying types of treatment rather than on any one drug.

5. From a small series of cases of ulcerative amebic proctitis, the indications are that recurrence is more likely in this group than in those without gross ulcerative lesions.

6. Much is yet to be desired in the treatment of the persistent and chronic phases of the disease.

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NEWS FOR TIN PAN ALLEY

Some late song hits are:

"Her Birthday Cake Was Heavy, but the Candles Made It Light."

"My Horse Never Misses the Sunshine, Because He's Used to the Rein."

"Bring the Potato Masher, There's a Fly on Baby's Head."

"We Feed the Youngster Onions, so We Can Find Him in the Dark."—*The Watchword*.

THE ROENTGEN RAY AS A REMEDY IN FIBROIDS AND OTHER GYNECOLOGIC DISEASES*

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Introduction. Clinical conclusions are more or less valuable according to accuracy of diagnosis, experience in the application of therapeutic principles and a determined follow-up method in estimating end results. Successes and failures each bring their quota of knowledge.

In this paper the attempt is made to survey the work of nine years, totaling 374 cases. As you know this is a difficult thing to do and of necessity must be less absolute than a report covering a short period of time. A part of my data has already been presented in papers read by me before other societies. There is, then, no attempt to do more than to bring my cases up to date, to restate evidence that is becoming to me more and more conclusive and to add recent observations. The nine years have convinced me, first, that x-ray is the remedy indicated in selected cases of benign pathology in the generative organs of a woman; and second, that the technique usually employed with the lower voltage is that to be preferred.

Technique. In x-ray therapy, as many of you know, there are two distinct methods of application. The first is the short wave-length, the massive dose, from a high tension machine with a capacity of 150,000 to 250,000 volts; the entire dose delivered usually at one or two sittings. This technique is highly suitable to cancer. The second method consists of a smaller dose, and is delivered usually from a lower voltage machine with a capacity of 120,000 to 130,000 volts. This technique is a more deliberate one. The treatment may be given in series with intervals of three weeks at first, later four, six, eight weeks or even as many months. The number of treatments varies according to the nature of the pathology and to the requirements of the individual case.

This latter technique gives abundant time for readjustment, and is, I believe, the safest and

most satisfactory practice in benign cases, for the following reasons:

1. While the pathology in hand is favorably influenced, neighboring tissues are not injured.
2. The prostrating "Roentgen sickness," which usually follows the massive dose, will not occur, especially if the ray can be confined to the pelvis and if the digestive tract is excluded.
3. Detrimental blood changes do not take place.
4. Secondary sex characteristics, such as obesity, asexuality, etc., do not appear probably because the ovary is affected only as to ovulation, not as to endocrine output.
5. The tissue changes are slower. If the menopause does result, it is not so precipitate, nor so stormy.

If the goal is a temporary amenorrhea, as is desirable in younger women, the effect on the tissues may be limited after the pathology has been sufficiently influenced.

Dr. Newcomet of the Presbyterian Hospital, Philadelphia, emphasizes the same principles and he seems to have proved that in benign cases the small dose may be applied remedially to women of 30 to 35 years of age, and that the menses may be disturbed only temporarily or not at all. Dr. Newcomet employs a dose still less than mine, and believes that if mild doses fail, heavy ones will.¹ Dr. Knox of New York, St. Luke's Hospital, states that even younger women from 25 to 35 years of age after amenorrhea for two or three years may resume menstruation.² Recently in four of my own cases of fibroid uteri, in younger women, a temporary amenorrhea was produced, the pathology remedied and the menses normally resumed in six months, nine, fifteen and twenty-four months. I believe child-bearing is possible in such cases. A fifth case, upholding this belief, conceived and bore a normal child at full term.** So it is evident that sterilization is not always necessary. The younger woman is more likely to resume menstruation than the older one.

The massive dose in benign cases has been steadily declining, especially during the last year. Thus the following words of Holzknecht and Bécélère uttered three or more years ago were well high prophetic.

Holzknecht, the pioneer roentgenologist, one of the most constructive students of the massive

*Read before Chicago Medical Society and Radiological Society Dec. 16, 1925.

**Two more cases have reported since writing this paper.

dose, after years of scientific study and observation, says that it is only in cancer that the massive dose is indicated or necessary. He observes that in a few individuals who failed to complete the series of treatments "half or less of the ovary dose was sufficient to stop menstruation. Therefore," he concludes, "we do not have the right to destroy more in the care of a single case than is physiologically warranted."³

Béclère states, "The very penetrating rays are a new advance but are not always necessary, not always harmless and not always efficacious."⁴

My detailed technique follows:

Spark gap: 23 centimeters (9 inches).

Distance: 18 to 43 centimeters (12 to 17 inches).

Five milliamperes.

Three to 5 millimeters of aluminum and sole leather as filters.

Time of exposure is from 14 to 17 minutes, through as many ports of entry, 8 to 13 centimeters (3 to 5 inches) in diameter, as are required to cover the pathology under treatment.

There is a general agreement that the requirements of the tissues we are discussing are all below 100, the unit skin dose.⁵ The ovary is about one-third or less, while the glandular tissues and fibromyoma cells are all below 100.

General management. In the conduct of each case herein reported the most important points are careful diagnosis and prognosis, selection, detailed records and attention to individual needs as they occur. Comparative examinations are made during and after the course of treatments. Subsequent to dismissal examinations are made when possible, and reports from the physicians referring the patient are sought. A large majority of the cases submitted have had confirmatory diagnoses made by other physicians.

Fibromyomata. The pathology most frequently presented to the gynecologist for x-ray treatment is fibromyoma. In the selection of these cases the roentgen therapist lays the foundation for his success or failure. For practical purposes, all cases submitted fall into three well-defined groups; first, those which should be rejected because of definite contraindications presently to be stated; second, those which should be accepted with guarded prognosis, which for various reasons may yield only partial success; third, the hemorrhagic intramural

fibroids, which are highly suitable for this form of therapy and which yield excellent results.

The first group, those unsuitable for x-ray, usually present one or more of the following conditions.

Contra-indications:

1. A tumor associated with acute symptoms, such as sudden severe anemia, much tenderness, fever and chilliness, may be, for example, necrotic and is at once surgical. Here should also be included cystic and other degenerative changes.

2. A tumor associated with large ovarian tumors (not simple follicular cysts) belongs to the surgeon.

3. Pedunculated tumors should be operated upon if the pedicle is slender and there is danger of torsion.

4. A case associated with acute gonorrheal infection is not benefited by x-ray nor yet harmed. Later, however, the adhesions and the thickened tissues of the chronic case may be much benefited.

5. A suspicion of malignancy puts the case into the hands of the surgeon, or the high voltage expert, or the radium therapist, or all of them.

6. Submucous tumors if diagnosed early would better undergo curettage, at least, as they are apt to be disappointing. Two of my cases that came to operation had submucous growths. Béclère's⁶ seven failures in 700 cases all had submucous complications. Since it is probably true that at least 10 per cent of all fibroids are complicated by submucous growths and since less than 2 per cent. fail to respond, it seems fair to conclude that about 8 per cent., even of the submucous type, are rendered innocuous, if not cured.

7. A large non-vascular tumor, made up mainly of connective tissue, does not yield the best results, although when it is reduced in size and the menopause established, health and comfort usually follow.

8. A woman who desires children and whose subserous tumors can be enucleated, is a good subject for myomectomy. At the Mayo Clinic, out of 488 cases, 44 became pregnant after the operation. This is 9 per cent.⁷

Inability to recognize these eight contra-indications has led to three of my failures. The first was a myxomyoma, a rare occurrence. This

woman, after four series of x-ray, was operated upon. The second was a stromatogenous tumor of the ovary occupying the median position. There was from the beginning a difference of opinion as to suitability for x-ray. Three series decided the matter and the case was operated upon. The third was a case of cancer of the fundus in a very delicate woman. The tumor had been pronounced benign after a diagnostic regime in the hospital. Operation was refused. This case did not improve under x-ray and later died. However, a careful roentgen therapist will remember that any tumor not materially reduced after two or three series belongs to the surgeon.

Experience convinces me that size of tumor should not occupy too important a place in contra-indications. Large tumors conforming to favorable type often yield satisfactory results. Even those growing to the umbilicus have entirely disappeared; on the other hand, one the size of a full term pregnancy was reduced to one-quarter its original size, when improvement ceased and operation was advised, though refused, and at last accounts the woman was in good health.

Neither is the question of age urgent if the small dose is employed as indicated in a former paragraph. I have had 31 cases under 40 years of age, 17 were 35 or less, and the youngest 30.

The second group consists, as above stated, of those cases that may not yield results entirely satisfactory and yet may properly belong to x-ray therapy. Women who are not good surgical risks, those with heart or kidney diseases, or hyperthyroidism, or arterio-sclerosis, or other serious complications, belong to this class. In some of these cases the health can be so improved and the pathology so far remedied that an operation is later possible. I have had four such cases. For example, among my series were two large multiple tumors which would count as failures were it not that before x-ray treatments the patients could not with safety have been operated upon. Later, because of improved health and reduced pathology hysterectomy was done safely and successfully. In other cases, however, surgery will probably never be possible. To these women the roentgen therapist can offer a lessening of acute symptoms and a definite relief not obtainable through any other method. Other women who might be put into this group

are those who cannot turn aside their business or their home duties for hospitalization, or who refuse to submit to surgery. These should be given a choice of procedure after a full understanding as to prognosis, if x-ray promises a relief of symptoms and a probable return to health.

The third group, fortunately about 75 per cent. of all cases, is made up of the hemorrhagic intramural fibroids. When these are situated below the umbilicus, are not seriously complicated and occur in women of 40 years or more, they are ideal cases for x-ray therapy, yielding almost 100 per cent in good results.

The effect of x-ray on pathologic tissues. The explanation of such gratifying statistics is to be found in the histological study of pathologic tissues subjected to x-ray.

1. In the fibroid tumor cell the nuclei first show hypertrophy, then the chromatin coagulates, is diffused and may be displaced into the protoplasm. Later vacuoles occur and the nuclei are obliterated. Finally the detritus is carried away by the leucocytes and young connective tissue takes its place.⁸

2. In the ovary x-ray inhibits ovarian stimulation, probably by its effects on the ripened follicles, then the ripening follicles, then the primordial follicles, and last, if the x-ray is continued long enough, the interstitial tissue.⁹

3. The internal secretion is apparently not influenced at all or not until much later. X-ray may be discontinued before the hormone producing tissues are affected. It need rarely be continued until they are detrimentally influenced.¹⁰

4. In the blood vessels x-ray produces an edema of the endothelial lining of the capillaries, which causes an endarteritis obliterans, thus limiting the too abundant blood supply.¹¹

5. It has been repeatedly demonstrated that the x-ray has a direct influence on glandular tissue. The enlarged cystic utricular glands soon become less in size and function, thus contributing to the increasingly normal picture in the endometrium. The same change occurs in the glands of the cervix-uteri. In short, x-ray produces in the ovaries, blood vessels and glandular tissues conditions that prevail in the normal menopause.

Histological studies in uterine hemorrhage.

Changes in the last two, the blood vessels and the glandular tissues are pertinent to the explanation of the success of x-ray in the treatment of hemorrhage, whatever the cause of the hemorrhage may be, excluding cancer. Samuel Geist has proved by his histological studies that the one characteristic finding in cases of hemorrhagic fibroid is hypertrophy of the mucosa; in uterine hemorrhage without gross lesions hypertrophy of the mucosa with edema of the stroma and enlarged, sometimes tortuous, almost always cystic glands are found.¹² This pathology is exactly that remedied by the roentgen ray, as has been shown above. Geist also reasons that the theory of endocrine disturbance is upheld because either the removal of the ovaries or x-raying the ovaries will cause a disappearance of both the hypertrophy of the mucosa and the hemorrhage.

Anemias. The anemias associated with intractable hemorrhages from any cause group themselves, practically speaking, into two general classes, those that are due directly to the loss of blood, and those complicated by focal infections. The former promptly improve with the cessation of hemorrhage. The latter may even resemble pernicious anemia and present symptoms out of all proportion to the hemorrhage. Recovery is slow and incomplete unless focal infections are eliminated.

Hemorrhage of the menopause. No type of case has given me more satisfaction in its reaction to treatment than hemorrhage during the menopause. Menopausal symptoms that are more or less exaggerated, usually occur in about 60 per cent. of all women. In about 25 per cent., symptoms occur which interfere with normal activities, and may drive a woman to the physician. Hemorrhage is not uncommon. The cases of so-called "essential hemorrhage" have long been said to be without pathology, and as such are usually classified. But with a large, boggy uterus, or with an indurated uterus, or with hypertrophy of the mucosa, so often found by Dr. Geist, above quoted, I am inclined to think of them as mildly but distinctly pathologic. However this may be, the hemorrhage is more easily controlled at this time than at any other, because Nature co-operates. The gradual application of moderate doses of x-ray is almost specific and can be discontinued soon. To date,

those I have treated have responded to x-ray therapy and have remained well.

The troublesome menopause, whether hemorrhagic or not, that is prolonged, nerve-racking, with its familiar train of distressing symptoms, should be terminated by x-ray. The generative organs at this time so readily assume the characteristic atrophic state that very little x-ray usually suffices.

Hemorrhage in adolescents is usually a systemic problem, probably of an endocrine nature, in many cases, as Novak sets forth.¹² These girls, in my opinion, need nothing so much as to be well studied. As a last resort, if either x-ray or radium is necessary, let it be radium—applied with great wisdom. Several convincing reports have come in about cases cured by radium.¹³ But the ovarian tissue in the young is highly susceptible to both x-ray and radium, and there may result a permanently amenorrhea or an incomplete development.¹⁴

In addition to the conditions above described I have treated the following pelvis pathologies with x-ray.

Ovaries. The simple follicular cysts of the ovary which originate in the Graafian follicles; also blood cysts of the corpus luteum, are promptly modified or cured by the x-ray. These retention cysts are rarely large, the largest in my series being about the size of a lemon. In all cases under observation, 54 in number, they either rupture or recede and others do not form. Cystadenoma has occurred in two of my cases long after x-ray treatment was discontinued. These cases are not prevented nor caused nor benefited by x-ray and are at once surgical.

Cervicitis. In nonmalignant diseases of the cervix, such as degeneration of cervical glands and erosions, proliferating and even destructive in nature, x-ray is a dependable remedy. The accompanying leucorrhea gradually disappears. Some of these erosions have been chronic and threatening, and these are often potential cancers. But if they are thoroughly irradiated before malignant changes occur, their response to treatment is prompt and satisfactory. To date, only one such case has shown signs of recurrence. This was due to insufficient treatment because of her youth. Twenty-six of my 57 cases recovered promptly during x-ray treatment of a fibroid. Fifteen complicated the case more or

less obstinately, but finally recovered completely. Seventeen were treated for cervicitis alone.

Dysmenorrhea. Another very satisfactory group is made up of uncontrolled dysmenorrhea that has resisted surgery and many other measures. X-ray should here be employed even in younger women. In these, fractional doses and longer intervals between series, will sufficiently delay the menopause so that the shock is negligible. All of my cases, 16 in number, have shown excellent results. They should, however, be selected with unusual care.

Adhesions. Chronic adhesions, indurations and inelastic tissues following old inflammations have long been known to yield favorably to x-ray which promotes a free reparative circulation. Such modification of tissues will release a tumor which earlier has been adherent.

Displacements. It is a recognized fact that the uterus naturally inclines to the normal position.¹⁵ When it is released from adhesions and when it is reduced in weight, it may assume the normal position unaided. This I have repeatedly seen, even after a fibroid has borne the uterus down for an extended time. X-ray has also proven itself a valuable remedy for the heavy engorged uterus, and in proper cases of subinvolution which often lead to displacements.

How does x-ray affect a woman sexually? This is a natural and legitimate question often asked me.

Even after the question of procreation is eliminated, the sex impulse and perfect function should be seriously conserved as an important factor in the harmony and contentment of family life. Later in life, ovulation is of much less importance than established sex habits and mental poise. According to Bride, of London, total hysterectomy disturbed sex relation in 39 per cent. of his cases.¹⁶ Fear and psychic instability are prominent symptoms after radical operation. If a woman fears that a mutilating operation will influence her sexually, that function is often impaired. If, on the other hand, she knows that her generative organs are intact, as after x-ray, this consciousness favors normal sex life. My women successfully treated with x-ray are usually unchanged sexually. In some

cases there is even improved sex health because of better general health, no fear of conception and freedom from discomfort and pain during coition.

Malignancy. Of my entire series not one completed case has to my knowledge developed either sarcoma or carcinoma. This fact seems to favor the belief that roentgen therapy through the establishment of normal circulation and the relief of the pathology present, helps to prevent the development of cancer by remedying the precancerous state. To substantiate I quote E. Essen Moeller,¹⁷ who reports 700 operations for myoma followed by the development of 22 malignancies. This is 3.14 per cent in cases operated upon. On the other hand, Franque¹⁸ reports roentgen treatment of 200 myomata, followed by malignant degeneration of only one. This is 0.5 per cent. If x-ray has no advantage over surgery, Franque would be entitled to 6¼ cases of malignancy instead of one.

Cullen (of Johns Hopkins)¹⁹ finds carcinoma of the cervix in one per cent. of the myoma cases, and of the body of the uterus, complicated with myoma, 2 per cent adenocarcinoma. According to various estimates at least six should have developed cancers in my series of 221 cases of fibromyoma. But to my knowledge not one has developed. Neither has any developed in my 153 miscellaneous cases which includes 57 cases of cervicitis.

If it is true, and it seems beyond contradiction, that x-ray therapy is a safeguard against malignant degenerative changes, the uterine fibroid causing no symptoms should be treated by x-ray before pressure symptoms develop and malignant processes are encouraged.

Comparisons. A fair statement of my reasons for the preference of roentgen therapy in the treatment of benign gynecologic diseases should be made. One principle pre-eminently conducive to the success of any treatment is selection of cases. When, then, upon examination, a pathology is discovered that is suited to x-ray, surgery and radium seem to me contraindicated for the following reasons:

First: In experienced hands the danger of x-ray to life is negative, while radium in the hands of the best radiologists may be followed by serious results if old inflammatory processes

exist.²⁰ And surgery even in the most skillful hands, yields an admitted mortality.

Second: Roentgen ray can be successfully applied without loss of time, inconvenience or discomfort, and without hospitalization, an economy much appreciated by the patient.

Third: The roentgen ray covers a wider field than radium, is more inclusive of possible pathology, stimulates more actively the circulation of lymph and blood and does not result in trauma of the endometrium.²¹

Fourth: The larger tumor is more successfully reduced by x-ray than by radium.

Since, as we have long contended, the roentgen therapist should observe carefully contra-indications for x-ray and should put the case into the hands of the surgeon or the radium expert, is it not fair to expect that they should be equally careful in observing contra-indications for surgery or radium. If such precision were more frequently exercised, many women would be saved from unnecessary mutilation and the nervous instability which often results.

Burns. The danger of burns is one of the most serious and most common charges brought against x-ray. During my nine years I have had no accidents nor burns, therefore, I assume they can be avoided.

Conclusions. My experience in the treatment room, corroborated by many roentgen therapists, brings me to the belief that x-ray in the hands of a physician with diagnostic and clinical experience should hold an important place in the armamentarium of the gynecologist.

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UNUSUAL UNUNITED FRACTURE OF THE HUMERUS OF 40 YEARS STANDING*

ROSS EDGAR HUNT, M. D.

BELVIDERE, ILL.

This case is reported because of its extreme long standing, its peculiarities of function, and the plate of the case which are quite interesting.

H. X. N., a farmer now by occupation, age 64 years, suffered a serious accident at the age of 24, 40 years ago, while working in a woolen mill. While attempting to adjust a broad machine belt, his left arm was caught in the same, and he was thrown across the room against other machinery. Examination at the time showed three ribs on the right side broken in two places each, a fracture of the right clavicle about one inch from the distal end, the right axilla badly injured, the skin torn and exposing both the anterior and posterior muscle walls of the right axilla and the inferior surface of the head of the humerus, the capsule being torn, and two fractures of the right humerus. The first was an oblique fracture about $2\frac{1}{2}$ inches down from the head and the 2nd a transverse about $1\frac{1}{2}$ inches above the elbow joint. The axilla was sutured, the two fractures (humerus) reduced and a roller bandage only applied with the use of a sling. On the third day wooden splints were used and on the sixth day upon dressing marked infection was evident. The next day the upper oblique fracture was purposely rebroken because of a slight overlapping, reset, and a plaster cast applied. Infection continued necessitating the removal of the cast and the application of wooden splints and frequent dressings. The wound finally healed. The ribs united and the lower transverse fracture of the humerus knit and became strong, as also did the clavicle, but the upper oblique fracture did not knit and it was evident that the two ends were far from being in the slightest apposition. A leather shoulder harness was worn for fourteen years, during which time the man worked and learned to make his right arm of some value to him. After fourteen years the harness was discarded.

It is noteworthy that twenty-five years after the first accident he suffered a second one in a runaway at which time he fractured six ribs, all

*Read before Boone County Medical Society.

of which knit in due time, showing that there was no pathological reason for non-union of the upper oblique fracture which was still ununited, most probably due to the presence of muscle between the two ends making apposition impossible.

At present after forty years standing, physical examination reveals a robust man of sixty-four years of age, engaged in active farming. The right arm is three inches shorter than the left. The distal end of the upper fragment points posteriorly and towards the axilla. Both ends can be felt as being smooth, and it is evident

shoulder high. Lifting as much with the injured member as with the well; a seemingly Herculean task with such an ununited fracture.

Therefore it is evident there is muscle between the two ends and that there is some manner of fibrotendinous band extending between the two ends not determinable in the accompanying radiogram, which holds the bones firmly enough to lift objects of considerable weight. He refuses surgical intervention now after forty years, stating that he is able to carry on his sixty acre farm in his present condition.

MEDICAL TREATMENT OF PEPTIC ULCER*

A. A. GOLDSMITH, M. D.

CHICAGO

The purpose of this talk this evening is to present to you in a somewhat chronological order some of the various treatments that have been proposed in the care of the disease in question. Every practitioner has some particular favorite manner of handling ulcer cases. Every now and then he will be called upon to treat some particular individual, who for some reason does not respond to the chosen method. It is therefore a good plan to have up your sleeve one or two extra regimes, or if not this, at least to have some modifications ready to be used in case of necessity.

There is one thing that is common to practically all ulcer cures; that is rest in bed, insisted on probably first by Cruveilhier.

What we are aiming at in ulcer cure is well summed up by Walter Wolff as follows:

1. Avoid mechanical irritation of the ulcer (improper food).
2. The food must be of such nature as not to stimulate secretion.
3. The food should be able to combine with the acid in the stomach.
4. The food must be of such nature as to furnish ample nutrition.

Contrary to the opinion of gastroenterologists of a former generation, it is advisable before taking up any regular regime, to institute one, two or three days of fasting (or rectal feedings if you will) and then to proceed with the regular treatment.

In fact, even without the presence of hemor-

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Fig. 1. Radiogram showing an ununited fracture of the humerus after 40 years standing resulting in but little impairment in the use of the arm.

that the two ends overlap nearly two inches and are about one inch apart. Both axillary walls are intact as are the deltoid and biceps which are very well developed. No crepitation may be determined between the bone ends. He uses the arm as a flail; anterior and lateral rotation is impossible but he can throw it in the intended direction. His grasp of the hand is powerful, his pulling and lifting strength excellent. He demonstrated his lifting ability before the writer by grasping a one hundred pound sack of grain on the floor with both hands and lifting it

rhage, a period of starvation is quite beneficial and this is especially true in case there has been much pain or vomiting. The *Leube-Ziemssen's* cure (or, as it is usually called the Leube cure) allows for ten days in bed. The entire treatment is outlined as follows:

I. (a) Hot moist applications to the abdomen continuously.

1. Flaxseed poultices continuously from ten to twelve hours during the day.

2. Priessnitz applications at night.

II. (a) After the ten days in bed, the flannel is worn around the abdomen during the day with continuation of the Priessnitz applications at night.

(b) After the ten days rest in bed two hours rest after each chief meal.

III. (a) Carlsbad water (Schloss or Muehlbrunnen). This water is taken luke-warm (not hot) over a four weeks period, the amount being 250 cc. (or if the gastric acidity is very high 500 cc.) taken a half hour after breakfast in small swallows, allowing ten or fifteen minutes for the entire drink.

5. After five weeks add roast veal, especially cold, souffles, rice sago, $\frac{1}{2}$ glass of pure wine.

6. All foods, after eight or nine weeks, starting on each one slowly.

A few years after Leube brought out his treatment *Lenhartz* of Hamburg suggested that it was a better plan to feed the ulcer patient earlier in order to have him build up his nutrition thereby supposedly to give the ulcer more healing power.

The following are the chief points in this treatment:

I. Concentrated proteid foods, to combine with the excess of HCl.

II. Increase the diet rapidly so as to build up the general strength and well being of the patient.

III. Avoid distension of the abdomen by using rest in bed, ice bags, bismuth internally, giving milk and other fluids, only in small amounts, furnishing by preference eggs, etc.

The following charts represent in detail the diet of the *Lenhartz* treatment.

Day after last hemorrhage	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Eggs.....	2	3	4	5	6	7	8	8	8	8	8	8	8	8
	Beaten							4 Beaten 4 Cooked			Maximum			
Sugar.....			20	20	30	30		40	40	50	50	50	50	50
Milk.....	200	300	400	500	600	700	800	900	1000	1000	1000	1000	1000	1000
	Iced.		Fed by spoon											
Raw								2x	2x	2x	2x	2x	2x	2x
Scraped Beef.....						35	35	35	35	35	35	35	35	35
Rice.....							100	100	200	200	300	300	300	400
Zwieback.....								20	40	40	60	60	80	100
								1 piece						
Raw Ham.....										50	50	50	50	50
Butter.....										20	40	40	40	40
Calories.....	280	420	637	777	955	1135	1588	1721	2138	2478	2941	2941	3007	3973

IV. Diet. (a) Three chief meals are allowed and two intermediate meals.

1. Ten days. Cooked milk, bouillon, unsweetened Zwieback or cake soaked in one of the drinks.

2. Seven days. To diet No. 1 is added slightly thickened soup, rice, sago, cooked soft in milk. Raw or soft eggs, boiled calves brains, young chicken or squab (without fat or skin).

3. Five day period. Added to diet No. 1 and No. 2 the following: Boiled calves feet, scraped raw ham, scraped rare beef, potato puree, a little tea or coffee.

4. Added to diet No. 1 No. 2, No. 3, the following: tender roast beef and roast chicken or squab, venison, partridge, macaroni, a little white bread.

Frank Smithies has outlined a method of treatment differing considerably from others. The following are the chief points in this method:

I. Rest in bed. Physical and mental rest from one to three weeks.

II. Physiological rest to the effected part (stomach). According to Smithies "complete rest demands avoidance of food, *per os*, irritating medicines, gastric lavage, frequent abdominal examination of this infected focus."

III. Local applications to the abdomen. "Painful spasms are prevented by having constantly applied to the abdomen compresses saturated with a hot solution of alcohol and boric acid. These compresses may be kept heated with an electric pad or partly filled water bag

and should be worn day and night without interruption."

IV. Keeping the stomach empty of food. "Abstinence from food by mouth should be insisted upon for from three to seven days, according to the type of patient under care." During this fasting period he allows the patient to chew paraffin wax for ten minutes every hour, the idea being to keep the mouth clean chemically, as an aid in counteracting the development of painful hunger contraction and hunger spasm, allaying thirst, and preventing parotitis and prompting a free flow of saliva and mucus.

V. Rectal feedings. During the fasting period, 300-600 calories of nutrient mixture are given each twenty-four hours in about 1000 cc. or normal salt solution. The enemas consist of one ounce of 50% alcohol, one ounce of glucose, and normal salt solution to make 240 cc., given by the drop method, the rate of flow being 30-60 drops a minute and allowing at least four such enemas in 24 hrs.

VI. Mouth feeding. Usually begin on the third to fifth day.

1. Nourishment should be liquid and administered warm, in small quantities and given frequently.

2. Carbohydrates should be selected.

The feedings are begun with 2-4 ounces of warm liquid nourishment each waking hour.

VII. The food used is a liquid carbo-hydrate mixture, (barley water, rice gruel, thin cream of wheat, dextro-maltose, ovaltine, malted milk, thin creamed vegetable soup, etc.) "Milk is not given as routine." He advises that if milk is given at all that it must be first par-boiled, citrated or pre-digested. Smithies is heartily opposed to the use of alkali in the treatment of ulcer.

VIII. Administration of Medicines. These are used with the following indications:

1. Painful gastro-spasm.

2. Stimulation of over acid gastric contents associating with peristaltic unrest.

3. Pain associated with perforation of ulcer.

The author of this method believes that the first discomfort is overcome by the treatment mentioned above, in particular chewing the paraffine. Occasionally belladonna or bromide is given. For the relief of the over acid gastric juice soda is not given but preference is given to milk of magnesia or calcined magnesia.

4. For the relief of the pain of perforating ulcers, morphin may be necessary and of course the use of surgery is demanded in case there is an actual breaking through of the peritoneum.

Coleman has brought out a method of treatment that differs radically from all other forms. By this method the carbohydrates may be given by rectum.

The enema. 30 grams of glucose is dissolved in 300 cc. of physiological sodium chloride solution and this is given perhaps from a vacuum bottle by the drop method at a rate that allows about 30-45 minutes for this amount. Three or four of these are given daily, equally spaced throughout the sixteen waking hours. Coleman states that the average patient will tolerate about 10% glucose and some will take as much as 12% and some will not be able to tolerate more than 7%. These are started on the first day of the treatment. Also every morning a cleansing enema of soap suds or sodium chloride is given.

II. Food by mouth. This is begun on the fourth to sixth day, the only food permitted being the white of egg and olive oil or butter fat. The two foods are given at different times, in order to prevent the delay that fat causes in the passage from the stomach. The intervals between feedings should be as long as feasible and should not be less than two hours. The quantity of food should be increased as rapidly as the stomach can take care of it in order to avoid loss of weight. The total amount of food at each feeding should never exceed three ounces and it does not always reach this amount. Olive oil is the fat usually chosen and is given in the amount of 1½ to 2½ ounces the first day. It is given clear and is taken more easily when it is chilled. The whites of three or four eggs may be given the first day thoroughly mixed with a quantity of water or whipped to a foam or lightly coddled. The quantity of oil is increased gradually to five ounces and the total number of egg whites to six or eight. If variety is desired the yolk of egg may be substituted for the olive oil or butter fat in the proportion of one yolk to about one teaspoonful of oil or butter. However the yolk and the white of egg should not be given at one time. The yolk may be heated but should not be cooked hard. A little sweet butter and salt may be added. Occasionally a patient will rebel against all fats mentioned and

cream must be substituted for this. In this case twenty-three ounces of cream are required to replace the five ounces of olive oil. The cream is said to be less desirable because "it calls forth a weak gastric secretion, and is not capable of exerting the same demulcent action on the surface of the ulcer." The diet is continued for three or four weeks and as is common to all diet cures, especially selected foods should be allowed for many months.

Purposely the Sippy treatment has been left to the last. This is not because it belongs here chronologically but rather because it is desired to give this more consideration as it is probably the most popular method of treatment.

This method, first published in 1911, has for its foundation an accurate neutralization of the gastric juice.

The treatment consists of the following points:

I. Rest in bed for approximately three weeks. After this the patient is allowed to sit up a short while each day and take short walks. A longer period of rest may be indicated by peri-gastritis; local peritonitis, hemorrhage, etc.

II. Diet.

(a) First three weeks.

1. Feed every hour from 7 A. M. to 7 P. M.

2. Three ounces of mixture of milk and cream, equal parts, at each feeding.

3. After one or two days, soft eggs with cracker or bread and butter may be added to one of the forenoon feedings and three ounces of a well cooked cereal such as rice, oatmeal or farina, to be added to one of the P. M. feedings (the cereal is measured after it is prepared).

4. Gradually egg and cereal are added until at the end of the first week the patient usually is taking each day three ounces of the milk and cream mixture every hour and in addition two or three soft eggs (one at a time) and six to nine ounces of the cereal (three ounces at one feeding). The cereal and egg are given alternately and at the same time (and in addition to) three ounces of milk and cream mixture.

5. Custards, cream soups, purees and other soft palatable foods may be substituted now and then for the milk and cream feedings.

6. Jellies and marmalades may be gradually added if desired.

III. The patient should be weighed. If desired a sufficient amount of food may be given

to cause a gain of two or three lbs. each week.

IV. Diet after the third week.

1. The routine is changed to three small meals a day, (Breakfast, dinner and supper) with milk and cream at hourly intervals.

2. The total bulk of food at one meal should not exceed ten or fifteen ounces (300-450 cc., measured after prepared). Water, tea and soup are not estimated in the amount of food allowed.

3. The three small meals should consist of food of the same character as prescribed above; vegetables in purees may be used, potatoes prepared as desired but thoroughly masticated, cooked fruits, all ordinary desserts and, after a few weeks, raw fruits of wide variety may be added.

4. Meat and meat broths interfere with the results of the stomach and stool analysis; however, usually subsequent to the fourth week, a small quantity of meat may be taken if desired. At breakfast, bacon is always allowed. This regime is carried on the remainder of the treatment.

V. Medicinal treatment (ant-acids).

1. A powder is given every hour, alternating with the feeding; for example, feed at seven o'clock, powder at seven-thirty; feed at eight o'clock, powder at eight-thirty. Also, the powders are given every half hour after the last feeding for four or five doses, or until the stomach contains no food, as determined by the use of the tube. The powder is stirred up in a glass containing from one to three ounces of water, immediately before taking.

2. The powders are two varieties:

a. Sodium Bicarbonate.

Heavy Calcined Magnesia, aa 10 grains (.6 gram).

b. Calcium Carbonate 10 grains (.6 gram).

Sodium Bicarbonate 30 grains (2.0 grams).

c. In case the bowels move too frequently, powder a may be replaced by powder b; however, as far as possible the two are to alternate.

3. When the free acid of the stomach is found controlled late in the afternoon and just previous to taking a powder or a feeding, the acidity is likely to be controlled at all other times during the feeding hours. However, if it is not controlled by the usual amount, the dose is gradually increased by adding five grains of calcium

carbonate to each powder until the acidity is regularly found controlled. It should be remembered, however, that a few cc. of fluid containing HCl removed half an hour after the last powder is taken does not necessitate the addition of alkalis, as the stomach has emptied itself of all foods (the few cc. mentioned is normally found in the fasting stomach).

4. Aspiration of the stomach one-half hour after the last powder, to determine whether or not the acidity has been controlled. This is done three evenings a week. This is discontinued at the end of the fourth week, providing there is no pyloric obstruction and in case the tube shows that the stomach is practically empty a half hour after the last powder.

5. The same plan is carried out when the patient returns to his regular occupation. Three small meals are taken daily and in addition to this the milk and cream mixture is taken along to the place of business. The mixture is carried in a thermos bottle and another flask may be carried containing water for the powders, or if he finds it more convenient he may take the powders with a swallow of milk. Now and then the patient may try taking an ordinary full meal or for a time three ordinary full meals. After each ordinary full meal, one powder should be taken each half hour for six doses, or two powders at the end of each hour for three doses.

6. The powders are stopped for five days at the end of ten weeks and then resumed as before for five or six weeks. They are stopped again for five or six days and then resumed again for six weeks. During the five days when the powders are not taken, the frequent feedings should be continued.

VI. Ambulatory treatment. It is a question whether a patient is ever justified in undergoing an ulcer treatment without being in bed at least a part of the time. There may be an occasional patient for whom for one reason or another it is not expedient to go to bed, but surely this is rare and not to be recommended.

It has been suggested in these cases that the patient take bismuth subnitrate, about 10-15 grams stirred up in a half a glass or more of water, on an empty stomach, one-half hour before arising in the morning. He is then to recline on the right side for this length of time. In addition to this, a bland diet is advised and some form of ant-acid given after each meal.

Another plan of treating peptic ulcer should be mentioned at this time; that is "Trans-gastric" Method. A duodenal tube is passed and after the bulb has gone beyond the pylorus, feedings are instituted at regular intervals. The disadvantages of this method are several. It is at least unpleasant to have during a period of weeks a tube in the pharynx. It is also a question as to how much mechanical irritation may be caused by this piece of rubber in contact with an ulcer of the stomach or duodenum. It would seem also that a more or less serious objection is that we are pouring into a very sensitive organ (small intestine) food that has not been properly prepared by a sojourn in the stomach.

There are, however, several advantages. In case an individual is much under weight, it is possible by this method to immediately give enough calories to start him on the upgrade.

Inasmuch as the patient is being well nourished and the stomach is presumably at rest by this method it would be possible to have the patient wholly or in part ambulant.

Naturally there are marked restrictions in regard to the variety of foods given. They must be liquid so as to pass through the rather small tube. This means practically milk and cream, to which eggs and sugar may be added.

It would seem wise to strike here a warning note in regard to a vitamine-poor diet carried out over a long period.

On more than one occasion the writer has seen scurvy develop and on this account during recent years has administered orange juice at least in small amounts early in the course of treatment. In addition to the out-and-and scurvy, we must keep in mind that a patient may have various degrees of vitamine deficiency, which, although not sufficient to give outward manifestation, may be still enough to injure the healing process of an ulcer.

Before closing, the following statements might be made:

1. This has been an attempt to give in concise form the various kinds of treatment for peptic ulcer.

2. The method advocated by Sippy is probably the most popular in America and in the hands of the writer seems to give the best results.

3. There is a growing tendency to advise laparotomy in all cases of gastric ulcer (except

in a patient so young that malignancy is very improbable), as it is impossible to differentiate between gastric ulcer and carcinoma.

4. An ulcer which has not been cured by one thorough medical treatment is probably not amenable to medical therapy.

29 East Madison St.

OBSERVATIONS ON THE TREATMENT OF FRACTURES*

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Any discussion of the subject of fractures may seem trite and out of place, but when one considers that despite the immense number of cases treated, the poor results number some ten per cent., and further that even among men noted for their interest in and study of fractures, differences of opinion prevail, there is justification in examination of this subject and in efforts to standardize and disseminate such ideas which have proved to be of value.

Formerly the classical treatment embraced the following points: 1. It was generally advisable to defer reduction until the subsidence of swelling; 2. immobilization continued until firm union had occurred; 3. scanty or no attention to the care of the soft parts—the skin, nerves, vessels and muscles.

As will be seen, the general principles of modern methods are considerably different. Moreover it is to emphasize that each fracture is to be considered as an individual problem and not as a member of a class. The exercise of judgment is required in each case, not only in the early treatment, but throughout the entire conduct of the case.

In the large majority of fractures the periosteum is not completely ruptured. At one point or another the fragments are attached by intact strips of periosteum. Earlier writers, attributing an osteogenetic function to the periosteum attached more importance to the role of this "periosteal bridge" than really exists. Modern conceptions of the role of the periosteum are well summarized in the words of Hey Groves¹ when he says: "The periosteum is chiefly a limiting membrane of bone. The dense bone

can live, grow, undergo repair, and produce fresh periosteum after the latter has been removed. In young bones it is possible to remove the periosteum in such a way as to produce an osteogenetic membrane, this being probably due to the lifting of the epiosteum with the periosteum. In adult bones, this is impossible, except after trauma or inflammation." The periosteum is of value as a "nutritive vascular membrane" for the bone receives its blood supply partly through the vessels of the periosteum.

Fracture cases are emergencies. Ashhurst² said: "The more promptly reduction of the fragments is secured, the easier it will be to obtain anatomical reposition. Especially is this true in joint fractures and in children. If attempts at reduction are delayed until swelling of the soft parts has reached its maximum, or until it begins to subside, they are not apt to be successful, and the mere fact that the broken bone has been restored to its normal form is very frequently enough to prevent injurious swelling of the soft parts from developing."

Having reached the suspected fracture as soon as possible, the surgeon makes a careful preliminary examination. The guiding principle of this examination is not to do any unnecessary manipulation or cause any unnecessary pain. The purpose of this examination is merely to determine whether or not a fracture exists or probably exists. The more accurate diagnosis is made later by the x-ray and palpation under anesthesia. Most frequently inspection and history alone suffices to make the diagnosis and in this case no further examination should be made but preparations for the care of the fracture should at once be started. Inspection failing or doubtful, the very gentlest palpation is resorted to. With a very light touch abnormal positions of the bones are estimated and the centers of the maximum pain are located. Vigorous manipulation is not only unnecessary but is harmful. If crepitus is not incidentally elicited special effort to produce it should never be made. The advent of the x-ray has rendered obsolete the elicitation of crepitus as a diagnostic sign in fractures. Should inspection and palpation fail to make a positive diagnosis and there is still reasonable grounds for suspecting a fracture the part should be submitted to roentgenographic examination. The preliminary examination should also note the possible existence of

*Read before the Evanston Branch of the Chicago Medical Society, Sept. 24, 1925.

dislocations or nerve injuries. A dislocation is even more of an emergency than a fracture and should be reduced with all possible expedition. Following the preliminary examination if there be a wound, this should be given the first aid treatment of an antiseptic, and a sterile dressing. No attempt should be made at this time to thoroughly cleanse the wound or shave the skin. If any delay is necessary an ice-bag should then be placed over the fracture.

The problem of immediately moving the patient to the hospital is now taken up. Any method which prevents movements of the fragments and gives the patient the minimum of discomfort is advisable. Very often a patient will be found with the broken arm resting on a pillow. The patient frequently may be moved to the hospital with the arm still resting on this pillow. More commonly a padded wooden splint is very gently applied, if necessary without removing the patient's clothing. The humerus may be bandaged to the side of the body. A Thomas splint is of course desirable for fractures of the femur or leg bones; failing this a padded splint reaching from ankle to axilla in the case of the femur and from ankle to hip in the case of the leg. Fractures of the pelvis or spine should be handled with extreme care not to move the patient; a firm stretcher or mattress and spring being useful.

There may be considerable shock in connection with the injury and this should be treated if present before starting to the hospital. Lowering of head, external heat, fluids, whiskey, etc., are useful.

Immediately upon arrival at the hospital a careful x-ray in two planes should be made. Even if the fracture is obvious it is important to do this for purposes of record. Landsman³ says: "It is held that the absence of a roentgen-ray examination of a fracture is, per se, basis for a malpractice suit, and recovery of substantial damages is the rule in such neglect."

The surgeon after examining the x-ray makes preparation for the immediate reduction of the fracture. Should the patient request to see the x-ray it should be shown him.

Reduction of a fracture is obtained by (a) massage or (b) manipulation under anesthesia (rarely without) or (c) extension or (d) open operation.

Lucas — Championnière, whose dictum was

"movement is life," was the pioneer in the treatment of fractures by mobilization and massage. The development and details of this system as evolved at St. Thomas Hospital, London, is most interestingly described by Mennell in his book entitled "The Treatment of Fractures by Mobilization and Massage."⁴ By the term "glucokinesis" is meant a painless stroking massage which is so smooth and light as to have been likened to a mesmeristic pass. The rate is ten to twenty times to the minute and the direction that of the venous flow. The site of the fracture is avoided. The advocates of this method are able painlessly to reduce many cases of Colles' fracture after fifteen minutes of this almost hypnotic massage. Splints are used for safety's sake and this specialized type of massage is employed for twenty minutes daily. The results of this method in the hands of Mennell are far superior than those of the average in the British Fracture Committee's report. The following table from Grove¹ shows how striking is the comparison.

Description of Fracture	Incapacity Fracture Com- mittee Report	Mennell	Total Disablement	
			F. C. R.	M.
Colles'	Average=17 weeks	50%=4 weeks 95%=8 weeks	14%	0
Neck of humerus	Average=27 weeks	Average= 7 weeks Longest=11 weeks	10%	0

Lack of training in this method and inability of surgeons to give the necessary amount of time to it, makes this method practically unavailable in this country.

The usual method of fracture reduction is manipulation under anesthesia. Immediately after the preliminary x-ray and as soon as possible after the fracture, the patient should be completely anesthetized. The purpose of the anesthetic is not only to obviate pain but to obtain complete relaxation of the muscles whose spasm otherwise would greatly interfere with if not prevent the reduction. The manipulations under anesthesia are to be done under the guidance of the fluoroscope. They must be done with exceeding gentleness to minimize trauma to the soft parts. The limb should be put in such a position as will take the pull off the muscles⁵ as for example flexion of the hip and knee in fractures of the femur. A frequently useful pro-

cedure is to flex acutely the fracture so as to lock the edge of one fragment over the other and then to extend.

Many fractures, particularly oblique and comminuted, fractures of the long bones will not yield to these methods in which case recourse is had to methods of reduction by extension and suspension. The principle of this method is to produce a continuous, strong, steady pull on the distal fragment in the long axis of the bone and corresponding counter traction on the proximal fragment. The mechanical details of the various devices to bring this about are involved and their description would take too long for a paper of this scope. The best writings on the use of Thomas and other splints with skin and skeletal traction are probably those of Jos A. Blake.⁵ Reduction by extension is checked and controlled by x-ray examinations taken at frequent intervals by the portable machine.

A certain very small percentage of fractures cannot be reduced without an open operation. The size of this group (at present some ten per cent. of all fractures) should be considerably smaller than it now is, and certainly can be reduced by the more intelligent and more patient use of the methods of manipulation and extension.

Grove¹ feels that if satisfactory reduction is not obtained after ten days' effort, operation should be resorted to. He is more conservative than Lane in the matter of asepsis and considers it permissible that the glove finger enter the wound. The fragments once aligned in the open operation, are fixed by one of numerous methods each having its advocates. Lane plates, Parham bands, wires, nails, boiled beef-bone intramedullary pegs, living grafts and other methods have their uses according to the type of fracture. It must be observed that the open operation even with the best technique is not a guarantee of a good functional result.

It is of the utmost importance to try to establish what constitutes a good reduction. In 1912 a Fracture Committee of the British Medical Association analysed 1736 non-operative and operative cases.⁶ They found that where the anatomical reduction was good that the functional result was good in ninety per cent. of the cases and, on the other hand, that if the anatomical result be bad the functional result was bad in 53 per cent. of the cases.

They conclude therefore, that, "although the functional result may be good with an indifferent anatomical result, the most certain way is to obtain a good anatomical result. No method, whether non-operative or operative, which does not definitely promise a good anatomical result, should be accepted as a matter of choice."

It is well known that certain types of anatomical displacement are generally accompanied by good functional results. It becomes a nice question of judgment as to what type and amount of displacement shall be allowed to go untouched. Provided the longitudinal axis of the fragments is undisturbed, and the general alignment is good, considerable lateral displacement is permissible. In fractures of the femur in children a mere hooking on of the edges so that twenty-five per cent. of the two fragments is in contact will generally bring about a good result. One may be satisfied with a closed reduction of this kind if manipulative efforts to produce a better have failed. A second type of permissible displacement is in the impacted fractures without angulation.

Displacements which are not permissible are (a) those which shorten length by impaction or overlapping in the bones of the lower extremities. (b) Those which increase length, as the distraction of the patellar or olecranon fragments. (c) Angulation of the fragments of the shaft of long bones. (d) Lateral displacements near joints. (e) Displacements of rotation. Hey Grove¹ says that "displacement is of serious omen in proportion to its proximity to and influence upon a joint."

Once a satisfactory reduction has been obtained the proper means of maintaining it must be decided upon. The guiding principle here is the use of such splints or apparatus as will hold the fragments in position and at the same time preserve the full vitality of the circulation and the neuromuscular apparatus. They must further admit of ready and frequent inspection of the extremity distal to the fracture. Moreover, no splint or retentive apparatus should be incapable of adjustment to accommodate the swelling which often follows reduction. Circular plaster casts should be used with greatest caution. The cast enclosed limb should be elevated and frequently palpated and inspected, and the patient questioned as to the extent of pain.

Often it is advisable to split the cast immediately, converting it into a bivalve.

Boorstein³ decries the use of the flat wood splint which he says cannot accommodate itself to the rounded contour of the limb. In the hands of the writer, properly padded wood splints have given excellent results. Anterior and posterior moulded plaster splints are comfortable and valuable. The cockup splint, the aeroplane splint, and the Thomas leg and humerus and arm splints have their appropriate uses.

In April, 1922, there gathered at the Massachusetts General Hospital a conference of most of the country's eminent fracture specialists in an effort to standardize the treatment. The result of this conference was the publication⁷ of a schematic tabulation of the treatment of fractures. This table covers very completely nearly all fractures and represents the consensus of opinion as to what constitutes the most approved treatment as to reduction, splints, times of immobilization, physiotherapy, etc.

Reduction and proper splintage accomplished, a second x-ray examination is imperative to insure that the reduction has not been interfered with in the application of the splints, and to serve as a permanent record that the work has been done satisfactorily. If the position, as shown by this second x-ray is unsatisfactory, reduction must be attempted a second or even a third time until a satisfying result is obtained.

The immediate after care of a fracture is rest to the patient and extremity, and the application of an ice bag to the fracture. Sedatives if necessary for pain are given. Severe compound fractures are given tetanus antitoxin.

Passive and active motion of the joints adjacent to the fractured bone is instituted as early as possible—the third day in Colles' fractures. Massage of the Mennell type and muscle kneading type is also employed very early. Heat in the form of a therapeutic lamp, baking, electric pad, hot water, or diathermy is useful in accelerating the return of joint motion.

The active use of the muscles in the splints is encouraged and as soon as they are removed, exercises are prescribed which employ the joints and develop the muscles. Forceful, painful, stretching or violent massage are never employed.

X-ray examinations are made from time to

time during the convalescence to check the maintenance of position and to observe the progress and strength of callus formation.

In cases with delayed union the entire body should, if possible, be exposed to the ultraviolet ray and there should be the addition to the diet of small amounts of calcium and phosphorus.

The case of fractures is exceedingly interesting because of the great diversity of problems presented, the frequent occurrence of situations requiring the exercise of judgment, and the responsibility which has to be assumed.

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COLDS: INFECTIVE CATARRHS*

(Abstract)

C. H. LONG, M. D., and C. W. HAWLEY, M. D.

CHICAGO

The condition known as the common cold is the most prevalent ailment about which the medical profession is consulted. To the laity, sneezing, running nose, headaches and sore throats seem so trivial and unimportant that they are considered as necessary evils to be endured rather than to be cured. The mildness of the disease together with the absence of a fatal termination probably accounts for this attitude.

The reduced resistance following a siege of so-called "cold" predisposes the patient to more severe infections such as pneumonia, influenza, rheumatism, neuritis, tuberculosis, etc.

He and Dr. Hawley have decided to write a number of short articles on this subject, and if permitted by the Program Committees, present them during the ensuing season. Their paper tonight covers a survey of current opinions on the causes and methods of propagating the common cold, especially emphasizing systemic conditions that make for a predisposition.

*Address before North Shore Branch Chicago Medical Society, October, 1925.

First, a sound nervous system is of the utmost importance as its vasomotor system depends upon its sympathetic nervous system and any defect in the stability of this system would interrupt its normal functions and destroy its purpose.

Second, a system free from septic poisons. Septic poisons circulate in the blood and are found in various parts of the body. The commonest sites are the accessory cavities of the nose (sinuses), the gums, teeth, tonsils, urinary tract, kidneys, intestinal tract, and in fact, all mucous surfaces.

Third, microorganisms. Staphylococcus, streptococcus, pneumococcus, influenza bacillus, catarrhal bacillus, diphtheroids and cocci are found in the mucous membranes of the throat as harmless germs but by some change, as yet unknown, become dangerous enemies to the system.

Fourth, hygiene. Until people learn to lead more healthy lives generally and especially improve their nervous equilibrium and thereby, the stability of their vasomotor system, chills and infection and infective catarrhs will remain with them. Open windows alone will not defend them. The "open air life" advocated by all health authorities is practised by only a very small percentage of the public, notwithstanding the constant and continuous publicity campaigns of boards of health. It seems greater efforts must be put forth to spread this preserver and giver of health. A normal functioning body radiates a happy, satisfied and contented disposition. Nevertheless at present, people live their lives surrounded by the "cold" catchers who repeat the same story: "I sat in a draft;" "I got my feet wet;" "I got my knees wet;" "I changed my underwear." The individual having no focal infections, or if he has nature has had time to furnish antibodies to subdue their ill effects, exhibits a resistance or immunity which assists in stabilizing his vasomotor system. Add to this his more regular habits, his non-coddling, out-of-door life, becoming accustomed to cold and draught, his nervous system becomes strengthened and there is a total absence of brain fag. His nerve force is more stable. It is not being rushed about from one part of the body to another, as is the case with city workers who use their brains actively for a time, then rush all their nerve force to the digestion of a too

hurriedly eaten lunch, then send it back to their heads and then to their legs to catch a train and so on.

One might easily ask why he should give his time to the study of a problem of so great obscurity, but other questions of equal obscurity have been solved before and it is our duty to the millions of sufferers from this tormenting thing to keep eternally at the work of stalking it to its lair.

DR. C. W. HAWLEY had planned a lantern slide demonstration but the lantern was not available. A good deal is known about the transmission of a cold by sneezing but in his opinion every sneeze does not mean a cold. In some cases a sneeze is caused by a sensitive membrane.

Another method of transmission that is little thought of is through the handkerchief that is carried in the pocket or in a lady's bag. The germs are transmitted to other articles and in turn to other people.

The etiology has been investigated by all the bacteriologists in an effort to find some specific germ for the common cold but the result so far is nil.

DISCUSSION

DR. FRANK J. NOVAK said that in his opinion a hyperplastic ethmoiditis was the basis of about 80 per cent. of all common colds. Treatment of these head colds should be directed toward the condition causing this hyperplastic ethmoiditis.

DR. G. B. LAKE said that one essential in the treatment of these head colds is general elimination. Patients with poor elimination are more apt to contract colds than those not thus affected.

DR. C. E. M. FISCHER said he was glad Dr. Hawley laid emphasis on the handkerchief. The late Dr. Gehrmann was very much impressed with this means of transmitting colds. He referred to the chlorin treatment and said that investigations showed it was an efficient treatment, although the newspaper publicity against it had discouraged many people from trying it.

DR. C. H. LONG, in closing, said that the hyperplastic ethmoiditis referred to by Dr. Novak was only one phase of the cause of colds. For instance, one will get a chill that has nothing to do with the nasal condition, have muscular pains, and yet not have this ethmoiditis.

What Dr. Lake said in regard to general elimination is in line with the paper.

Regarding the chlorin treatment, a paper is soon to be published giving the results of the investigations along this line. The authors have had no more suc-

cess with this method of treatment than with anything else.

DR. C. W. HAWLEY, in closing, said that the general condition of the body was responsible for the bacterial invasion producing the head cold. In his own case, for thirty-five years he has been taking a Turkish bath once a week to keep his skin in as good condition as possible. He finds as a result of this that brisk walking, producing perspiration, standing or sitting in a draught will not cause him to take cold.

AN INVENTORY*

MATTHEW PFEIFFENBERGER, M. D.

ALTON, ILL.

Osler wrote: "For countless generations the prophets and kings of humanity have desired to see the things which men have seen, and to hear the things which men have heard, in the course of this wonderful nineteenth century. To the call of the watchers on the towers of progress there has been the one sad answer—the people sit in darkness and in the shadow of death. Politically, socially and morally, the race has improved, but for the unit, for the individual, there was little hope. Cold philosophy shed a glimmer of light on his path, religion in its various guises illuminated his sad heart, but neither availed to lift the curse of suffering from the sin-begotten son of Adam.

"In the fullness of time, long expected, long delayed, at last science emptied upon him from the horn of Amalthea blessings which cannot be enumerated, blessings which have made the century memorable; and which have followed each other with a rapidity so bewildering that we know not what next to expect.

"Wonderful in themselves as these discoveries have been, their great value has been in their usefulness to man. In no branch of science have greater advances been made than in preventive and curative medicine."

Knowledge has taken the place of guesswork; experiment has pushed empiricism and superstition into the background; medicine grew from an art into a science. Through the epoch-making discoveries of Pasteur and the host of earnest workers the world has produced since, the human family began to receive benefits like it never had received before.

The causes of the decimating diseases of the world were studied one by one, until now there

is hardly an infectious disease that has not been conquered by the scientific world.

The economic value of these conquests is incalculable and the public hardly realizes what has been done in its behalf, so gradual has the accomplishment taken place.

The medical profession, from its training, is not prone to let the public know its discoveries and advances; and the public, having no other way to find out other than from the profession, still lives on in ignorance.

We know, as physicians, that modern science has made possible the conquest of rabies, smallpox, yellow fever, typhoid fever, cholera, typhus and bubonic plague—that is, methods have been devised for their eradication.

Although we pride ourselves on the work we have done to reduce the mortality from tuberculosis, the United States Public Health records show that 30 per cent of all deaths between the ages of 15 and 60 are due to pulmonary tuberculosis. Rosenau estimates that this disease alone costs us (the United States) about \$500,000,000 annually.

Of the 21,500,000 children in our schools today, almost 2,000,000 will die later of tuberculosis if the present rate continues, based on the assumption that 10 per cent of all deaths are due to consumption. Are we, as a profession, doing all we can to check this enormous loss?

In many respects the venereal problem is a greater menace in its many manifestations, early and late, than tuberculosis. Syphilis is the primary cause of approximately 10 per cent of all deaths. Against 87,000 cases of tuberculosis reported in seventeen states in 1920, over 154,000 cases of gonorrhea and syphilis were reported.

Stokes believes that the annual cost of insanity due to syphilis alone would approximate \$500,000,000.

Are we, as a profession, applying all the knowledge we have to prevent this gigantic loss, annually?

We know how to test for a natural immune in diphtheria; also have developed a means of producing immunity in the susceptible; yet we still have a very material death rate from diphtheria.

Are we, as a profession, using the knowledge we have gained to make diphtheria a rare disease, if not render it non-existent?

*Address before Chicago Medical Society, March 3, 1926.

We still have a mortality from tetanus and hydrophobia, yet we have specific treatment to prevent both.

Modern investigation shows that scarlet fever can be conquered. Is the profession using this information to advantage?

The 1920 census showed that of about 30,000 cases of blindness in the United States, 3.3 per cent were due to gonorrheal ophthalmia.

Are we using our knowledge of prevention to its fullest value in this field?

If we do not educate and inform the public and create in them a demand for efficient service with the information we have gained, can we wonder at their starting societies for the prevention and cure of this and that, for the investigation of this and that disease?

It seems to the writer that we are largely at fault; we have information based upon fact and substantiated by experiment and experience, and we must get this information to the public in such a way and in their own language, so that quack clinics will have no basis for even being thought of, let alone existing. So a new cult, with its chief aim the almighty dollar, with no service rendered, will have no chance for existence.

Some one has stated that nine-tenths of human suffering is due to ignorance. If such is the case, the organized profession is not functioning to the fullest extent, where the public is concerned.

Infantile paralysis, because of its apparent increasing prevalence, will need all the attention the research investigators can give it, as it is approximately estimated there are 100,000 sufferers from the crippling effects of it in the United States today.

When we learn that at least 1 per cent of the elementary school children have serious cardiac affections—this means 200,000 children in the United States with hearts requiring systematic skilled medical supervision—we recognize another serious problem for education.

The National Committee on Mental Hygiene states that the economic loss to the United States each year on account of mental diseases is over \$200,000,000—another field for educational endeavor.

The annual contribution to our criminal courts from the feeble-minded also claims attention for education of the public.

When we stop to think that cancer claims one out of every ten deaths after the age of forty, we must also recognize another problem for the public to hear about in order to receive its assistance in fighting.

Malaria, although long known to be curable and preventable, still claims an annual toll both in sickness and in death. Education of the public needed.

Industrial diseases, through systematic investigation and study, have been placed under preventable measures, but through lack of education and application of knowledge gained, still prove a problem—lack of education again.

We have our most serious problems of the wage-earning middle life yet to assail and conquer, due largely to lack of knowledge on the part of the profession and for which we cannot blame the public for not helping solve.

In 1920 pneumonia and influenza together were responsible for almost twice as many deaths as was tuberculosis—pneumonia causing 10.5 per cent of total deaths and influenza 5.4 per cent (United States Census).

Pneumonia respects no age, taking its toll from all ages and apparently is our most dreaded enemy to be attacked.

Influenza, which has given the United States at least eighteen epidemics, like pneumonia, attacks at all ages, and is next to be feared.

Diseases of heart and kidneys, of which it is estimated there are more than 5,753,000 cases now in the United States, with a death rate of 17.7 per cent, also needs the profession's concentrated attention. Our knowledge of the etiology of heart diseases being due chiefly to infectious diseases, especially in childhood, and from focal infections, with syphilis claiming its quota, would seem to give us a vulnerable point of attack upon this menace to society.

We, as a profession, are not as much concerned with the narcotic and drug addict problem, as the answer is one purely of prevention—cutting off the supply. It is hardly debatable as to whether it is a public health problem.

Diabetics, based on the estimates of Joslin, number in the United States 1,000,000 and have a death rate large enough—16.8 per cent per 100,000—to more than attract the attention of both the profession and the public.

The \$195,000,000 spent annually for self-medication is a problem purely of ignorance and

one that will be solved immediately the public is enlightened.

Proper forms of education, efficiently instituted and effectually applied, will materially curtail the inroads on the public of the charlatan and quack and the isms and cults will cease to sprout in society.

It seems to the writer that a very material improvement in existing conditions can be accomplished by the institution of a comprehensive, well-organized educational campaign, employing every avenue of approach from the school book to the lecture platform, from the popular magazine to the chautauqua method, from the general practitioner to the laboratory technician.

Educating our own graduates in a broader manner than we are now doing, a curriculum embracing some public health instruction, some knowledge of the business side of life, some of psychology, economics, etc., will do a great deal, for this same individual is to go forth into the battle of life, just as much as he is to practice his profession and must be able to meet and establish contacts with society the same as other professions in life have to.

A continuous, systematic service of education of the graduate in medicine after graduation, more information from our own body and less via the detail man route, is needed.

Encourage the physician in entering and becoming interested in his community by affiliation with his chamber of commerce, retail merchants' association, church, lodge, some dinner club and all the activities for the betterment of the community of which he is a part and from which he derives benefits with the other citizens.

The day of the family doctor we hear so much about is past, just as the days of saddlebags and tallow candles is past. The modern doctor must be equipped with all the information his profession and the research men have gained for his use and, more, he must cease being a hermit and holding himself aloof from his fellow-beings.

The writer believes that the establishment of a national department, with headquarters in Chicago, as a part of the American Medical Association, for the purpose of education—both of the profession and laity, in matters pertaining to the public health of the nation—would do much in solving perplexing and exasperating problems, constantly presenting themselves to the doctor and the layman.

The Illinois State Medical Society has been one of the first societies, I believe, to consider this problem of lay education and, although a little more than a year has elapsed since its beginning, it has profited greatly by experience gained, and it has shown in this short time that the field is fertile for results.

Dr. J. R. Neal, in speaking of the work of education, says that "the direct contacts are invaluable and should, under no circumstances, be neglected. The indirect contacts—the use of friendly lay persons and organizations—can be made of much greater value to the organized medical profession than at any time during the past."

Dr. Neal, with 300 copies of "Regulations of Physicians by Law," a small brochure written by Henry Eugene Kelly of the Chicago Bar, succeeded largely in educating the members of the last Legislature for the good of the public.

Quoting from Elliott B. Edie, M. D.:

If such an organization as heretofore mentioned should be established the public must know that a strong central organization exists to help the general practitioner become efficient in the work of health preservation. They must be told that the medical schools are educating doctors according to the principle that an ounce of prevention is worth a pound of cure, and that physicians in practice are constantly receiving in practical form the valuable things learned in our national research work. We can tell about our pure food laboratories and inform the public that our members know which foods are pure, which are necessary for nutrition and which will insure good teeth; that they know how to reduce overweight persons without harming them and can fatten those who need it. We can tell of our research into the problem of exercise and point out that our members can give personal instruction in exercise adapted to persons of various postures and different occupations. The public will be interested in our mental hygiene department from which the practitioner gets instruction, enabling him to solve the behavior problems of childhood and adolescence.

We must emphasize the work done by our clinical department, to provide simple methods by which the family doctor may detect painless areas of infection.

All these activities are necessary if the general practitioner is to carry out periodic health examinations.

The purpose of this inventory is to try to call to your attention the opportunity we of the profession have. If we are to live and function as a profession, we must adjust ourselves to the times in which we are living and give more service to the public and assume leadership, or allow the public to assume the leadership and we follow.

REMARKS ON PROPHYLAXIS OF CARCINOMA OF RECTUM*

J. RAWSON PENNINGTON, M. D., F. A. C. S.

CHICAGO

We are under great obligations to Drs. Lynch and Felsen for the instructive lessons they have brought to us this evening. Now, let us "get right down to brass tacks," and determine how we can cure these poor sufferers before they become incurable:

It is the consensus of opinion that cancer *never* begins in healthy tissue. Conceding this, cancer of the rectum is a secondary disease, and as such is largely preventable. The early symptoms of cancer of the rectum, then, are those of such conditions as are responsible for the development of cancer. Such symptoms, however, are not always the precursor of cancer, any more than bleeding is always the precursory symptom of hemorrhoids.

Preventive treatment,—or rather the cure of those ailments which may lead to the development of cancer of the rectum is the treatment *par excellence*. The time to cure cancer, then, is before you get it. This means the terminal bowel should receive periodic examinations, and efficient treatment of any and all of its pathologic conditions when discovered. Moreover, such conditions should be removed by that method leaving the least possible scar or point of irritation, as cancer may develop in either.

Scar tissue produces its effect, as the French author Lumière pointed out, by cutting off the circulation to the highly-organized tissues. Hence the cells of such tissues change to those of an embryonal type, and lose their specific or differentiated character. It is a characteristic of embryonal cells to have exceptional capacity for growth; and given this capacity, malignant tumors may develop both from absence of the constitutional resistance, and absence or diminution of the local one.

Evidently the cause of the irritation must be long continued, for acute traumas are so frequent—especially in industrial workers, soldiers, etc.,—that the ravages of malignant tumors would be vastly increased. For instance, the frequency of cancer of the uterus and of the mammary gland is attributed to the rapid hyper-

trophy and involution of these organs during the pregnant condition.

Cancer of the rectum may begin in the scar following operations for fistula or for hemorrhoids. It may occur in incontinence of feces following an operation for fistula. (In this connection gynecologists are advocating removal of uteri with intractable discharge from lacerations of the cervix of long standing). It may be engrafted on hemorrhoids. It may be provoked by (or develop upon) pruritus ani, may occur in connection with fistula, ulcer, fissure, stricture, fibrosis of the rectal valves, constipation, and so on. I have had examples in each of the foregoing-named conditions. In view of this I should say that the most important treatment of cancer of the rectum is that by prevention.

If a fire is raging, the best time to save one's house is before it is attacked. What is the use of trying to quench the fire when the house is enveloped in flames, and all the adjacent property is on fire? So it is with treatment of cancer of the rectum: That is, protect and save the patient before the cancer fires are started. In other words—and to repeat—prevention is the treatment *par excellence*.

How is the present status towards cancer of the rectum to be improved? First, by educating the public to submit to periodic examinations. Second, by better instruction in proctology at our medical colleges. Today students are turned out as full-fledged doctors, with much knowledge about lengths of microbes in microns, and similar information, but little or no practical knowledge about rectal diseases.

As regards cancer in general, the opinion seems to be gaining ground that it is a constitutional disease, and governed by some controlling agent, absence—or lessening—of which plus diminished local resistance leads to development of malignant growths. The source of this controlling agent is unknown. The endocrine glands, of course, have been accused. Sendrail in France, last year, suggested a biochemic origin—difference between the ionic and lipoidal equilibrium of the blood plasma.

He also observes the cancer produced experimentally by application of tar, etc., is less a cancer due to irritants than the reaction of the tissues to some constitutional agent. Even in experimental cancer the negative results are frequent, showing—I presume—that the con-

*Amplified discussion of the papers of Dr. Jerome M. Lynch and Dr. Joseph Felsen, New York, read before the Chicago Medical Society, Feb. 17, 1926.

stitutional resistance is sufficient. Therefore, it seems to me that since certain individuals among our patients may have this constitutional resistance impaired or lost, it is all the more important for us to act promptly to prevent loss of the local resistance. The latter corresponds to what Bang terms "biologic malignity," that is to say the latent precancerous state.

If a little more attention relatively were given by our schools to proctology and a little less to micrology, there would be need for fewer abdominoperineal operations with permanent colostomy; to say nothing of prolonged longevity and human comfort. In the language of the late Dr. A. J. Ochsner we need: "A large number of medical teachers who can, and will, teach medical students the essentials of medicine in the shortest possible time, without cluttering up their minds with a lot of non-essentials."

[Since writing the above I have read the brochure issued by the Metropolitan Life Insurance Co., "Cancer Mortality Among Insured Wage Earners and Their Families." This recounts the experience of the Industrial Department from 1911-22. From it we learn cancer of the peritoneum, intestines and rectum ranked second in numerical importance among males, and fourth among females. They were responsible for 11,077 deaths, a crude death rate of 8.6 per 100,000, or approximately to one-eighth (12.3%) of the total cancer mortality. I wish to call attention to the following passage which emphasizes my own remarks above: "The upward death rate for cancer of these organs is unmistakable, amounting to 1.5 per cent. per year of the mean standardized death rate. In particular, among white males and white females, the uniform annual increments were 1.91 and 1.30 per cent. per year."]

DOES SMOKING EFFECT THE VISION?

FRANK L. ALLOWAY, B. Sc., M. D.
CHAMPAIGN, ILL.

The question of the effect of tobacco smoking on the visual acuity is of interest not only to men who have used it for a great number of years, but also to the vast number of women who have in recent years acquired the habit of the drug.

In making tests to determine the effect of the drug three classes of people were tested, non-smokers, light smokers and heavy smokers. Two

cigarettes were found to be equal in effect to one cigar if fully smoked and inhaled.

In performing these experiments the usual test-type found in the eye-specialist's office, known as Snellen type were found to be unsatisfactory. A test called the Ive's visual acuity test was used. This is the most accurate of all the subjective tests for vision.

In order to avoid any other person's influence in the test each man under observation manipulates the test himself by means of a small hand-wheel belted to the movement of the test object.

The tests were carried on in a dark room. The lighting of the test-chart was regulated so every test was the same.

The non-smokers were tested; then they smoked two cigarettes. The test was made during smoking, ten minutes after smoking; then one hour after. The result was found to be a slight rise in visual acuity while smoking, below normal ten minutes after, and back to normal in one hour.

The moderate smoker had a slight increase in vision while smoking and a return to normal in ten minutes after smoking was discontinued. The heavy, habitual smoker showed no difference in any of the tests before, during or after smoking, although it was found that the heavy smoker usually had a conjunctivitis or inflamed condition of the upper and lower eyelids.

Of course in making interpretations from such a test, caution must be used as many uncontrollable factors enter all vision tests. Practice as well as fatigue must be taken into consideration. One of the greatest difficulties encountered was the fact that most of the men tested were habitual smokers, therefore they were never at any time wholly free from the effects of smoking.

Another thing that must be borne in mind is the effect of this habit on the general system, such as the graver functional disturbances.

The cause of the rise in visual acuity is probably due to a general stimulation such as that produced on a horse when you whip him and he starts forward for a while then drops back into his old gait until you touch him with the whip again. If there is any harmful effect on the vision due to smoking it is very little, especially in the moderate use of the weed.

The U. S. Army School of Aviation Medicine has made tests like the above with somewhat

similar results. Mr. Underwood in his general work on the effect of the use of tobacco on the human system went into the subject, but his tests were not as finely balanced.

209 University Ave.

PYLORIC STENOSIS* (Abstract)

JOHN GRAHAM, M. D.

CHICAGO

Pyloric stenosis was first described by Armstrong in 1777. The results obtained in the treatment of this condition have been brilliant, in twenty years the mortality from operation dropping from 65 per cent. to 5 to 10 per cent. Owing to the pathognomonic symptoms the condition whether it be the spasmodic or hypertrophic type is readily recognized.

More than 80 per cent. of the cases occur in males. The child presents a definite train of symptoms. At first apparently healthy, it begins to vomit, loses weight, becomes dehydrated and has a reduction in the bowel movement. A pyloric wave is visible and a mass is palpable in the right side of the stomach. In his series of cases x-ray examination was not resorted to and there was one error in diagnosis.

G. F. Still in 1923 reported 248 cases of which 37 were females. In this series of 78 cases treated with gastric lavage 43 recovered and 35 died, making a mortality of almost 50 per cent. He favored the Rammstedt operation, though he had 11 deaths in 28 cases. He then abandoned this method and resorted to forceful dilatation.

As to the prognosis, Richter claims that the delay in operating is the greatest cause of death, the danger to the baby being greatly increased by excessive loss of weight and the conditions associated with starvation and tissue dehydration. The prognosis also depends on the skill of the operating surgeon, the pre- and postoperative care. The mortality in artificially fed babies is more than three times that for breast fed babies.

A review of 450 cases operated on by the Fredet-Rammstedt method shows that the mortality of his series has decreased gradually until for the period since January, 1923, it is less than 10 per cent. This is attributable not only to the greater proportion of favorable cases, but

also to certain changes in pre- and postoperative care.

The duration of the symptoms prior to operation is probably the most important single factor affecting the prognosis. If the condition is kept in mind prompt prognosis may be made in practically every instance. The question of operation should be taken up as soon as the diagnosis is made, and operation carried out in all but mild cases in which symptoms are relieved by medical treatment within one week.

The method of operation used in curative and the result permanent. The operation itself is relatively simple, and with reasonable care carries little danger. Transfusion is of great value before and after operation in poorly nourished babies. Local anesthesia is desirable in most cases.

No operation requires more precision in technic and more attention to details. Every minute detail may mean a reduction in the mortality.

In his work Dr. Graham follows a definite technic. The operating room is superheated. The operation is performed under local anesthesia and during the operation the baby is allowed a nursing bottle containing a small amount of water. The incision is an extreme right sided one to avoid injury to the small bowel. Hemostasis should be complete.

Feeding is resumed immediately after the operation. In a series of 45 cases he has had no recurrence of the symptoms which existed previous to operation.

DISCUSSION

DR. L. W. SAUER said the diagnosis was very easy provided the doctor takes the time to study the case. Not infrequently these babies have been under the care of the obstetrician or the family physician and the condition not recognized. If a baby vomits and does not gain and if the vomiting starts after the first week and especially after the eighth week, it is pretty evident that a pyloric stenosis is present. Finkelstein was the first one to palpate the tumor in these cases. The peristaltic waves can nearly always be seen. Dr. Sauer adopts the method of examining the baby, then having the mother give it a bottle, and returning in 15 minutes to watch the peristaltic waves. These start in the left upper epigastric region and move at first diagonally across in the right costal region. Sometimes from one to three waves are visible. Not seeing the waves would not necessarily exclude pyloric stenosis. Palpation of the tumor takes quite a little skill. Men like Downes, Still and Graham who have seen many of these patients can undoubtedly palpate the tumor and distinguish the condition from anything else in the abdomen. About four out

*Address before North Shore Branch Chicago Medical Society, October, 1925.

of every five cases never get to the surgeon. They are cured by medical management. They are given thick food in small quantities every three hours and also atropin, 1/500 of a grain, one drop being added to each feeding.

In referring these patients for surgical treatment, one should select a surgeon of experience in children's surgery.

DR. A. H. MONTGOMERY referred to the pathology in this condition. He has seen specimens of these hypertrophic pyloric cases before operation and also specimens removed at postmortem some months after operation. The hypertrophy affects only the muscular layer and not the mucosa and this explains the efficacy of the operation. Many of these cases have only a relative degree of stenosis and as a rule some food goes through and that explains why many of these cases can be treated by medical management.

Dr. Sauer referred to the presence of adhesions. In the specimens which Dr. Montgomery has seen there have been no adhesions.

Regarding the operative treatment, he thought Dr. Graham's point about not allowing the small intestine to prolapse on the abdomen was well taken. One of the safe measures is to grasp the pylorus between the thumb and finger and block the opening in that way.

DR. H. P. SAUNDERS asked whether there was a tendency for this condition to arise several times in the one family. He has had the unusual experience of having three babies in succession born to the same mother and all developed pyloric stenosis.

DR. G. B. LAKE asked the formula for the local anesthesia employed.

DR. JOHN GRAHAM: A 1% procain is dissolved in triple distilled water which has been autoclaved for forty minutes. This is allowed to boil for three minutes, and cooled to sixty degrees. After which one gram of clorotone to the 100cc of the above mixture is added. Just at the time the injection is to be made for the anesthetic four drops of the adrenalin is added. Adrenalin must be fresh.

In answer to Dr. Saunders, he had never seen two cases in the same family.

He thought Dr. Montgomery's suggestion of blocking the opening to prevent prolapse of the intestine was valuable.

I have had no experience with feeding babies with pyloric stenosis, though each one of my cases had been under the care of a pediatrician before being submitted to operation.

STRANGULATED HERNIA IN AN 18-DAY OLD BABY. OPERATION. RECOVERY.

BENJ. H. BREAKSTONE, B. S., M. D.

Surgeon in Chief, West End Hospital
CHICAGO

On March 1, Dr. A. M. Sewell delivered a male child. There was nothing abnormal about the delivery. March 19, 1926, Dr. Sewell was called again about noon to the home of this in-

fant. The mother complained that the baby had been vomiting for several hours and cried. On examination, a mass was found in the right inguinal region, about the size of a pigeon's egg. This swelling appeared suddenly and it was impossible to reduce it. Dr. Sewell again called in the evening, when he found that the child had fecal vomiting, and thereupon diagnosed strangulated inguinal hernia containing bowel (enterocele). The child was then brought to the West End Hospital about 9:30 p. m., Friday, March 19.

I examined the patient carefully and agreed with Dr. Sewell as to the diagnosis, thereupon advising immediate operation, for the patient had already shown signs of emaciation, having lost in weight and looking marasmic; whereas, the history stated it was a plump child when it was born.

We operated on this case without an anesthetic, thus proving that before an infant is a month old it does not have any pain, for, after it became used to the discomfort of being held, it stopped crying, looked around at us and seemed to feel perfectly content to suck on a sugar pacifier. On opening the inguinal canal we found the congenital sack containing cecum, appendix and a small part of the ileum. Before opening the sack one would think of a hydrocele of the cord, which is much more common than the rare condition we found in a child of that age (18 days). This mass came through into a congenital sack. The appendix was removed, a radical operation for the cure of the hernia performed in my usual way, leaving the spermatic cord right beneath the skin and superficial fascia, sewing up the skin with silk-worm gut, using kangaroo tendon for Poupart's ligament.

The child made an uneventful recovery, ceased vomiting immediately after operation, and is gaining in weight. We believe this one of the youngest cases on record which was diagnosed and operated on for a strangular hernia, the sack of which contained the appendix, 1¾ inches long, which was cyanotic looking, as was the strangulated ileum and cecum.

It may be remarked that in an infant the cecum and appendix are freely movable and may be found in almost any part of the abdomen. It may be even pulled out of the wound some distance.

We have learned from watching circumcisions by "mohelim" that it is not necessary to use an

anesthetic the first month of a child's life. The only aid we might have received by using an anesthetic would be perfect relaxation of abdominal wall and abdominal contents, which we did not have in this case.

Society Proceedings

ADAMS COUNTY

The regular monthly meeting of the Society held at the Elks' Club, Quincy, April 12, 1926, and was called to order by the President at 8:15 P. M. Thirty-seven members and two guests were present.

The Secretary read a telegram from Dr. J. W. H. Pollard to the effect that he would not be able to be present to give the health survey of Adams County at this meeting, but would be glad to present it at the May meeting. The Secretary read a communication from Mr. R. R. Swaynie of the Swaynie Bath System asking the society for certain advice. After some discussion Dr. Koch made a motion that a committee be appointed to confer with Mr. Swaynie. Seconded and carried. The President appointed Drs. Koch, Williams and Center on this committee. The Secretary read a letter from Miss Amelia Eichenauer, Chairman of the Crippled Children Committee of the Women's Luncheon Club, asking for information as to what use the funds that had been raised to purchase braces for crippled children by the Women's Luncheon Club and the Business Women's Club could be used. Dr. Center made a motion that the Chairman appoint a committee of three to confer with these clubs in regard to the above, the committee to consist of one physician from each local hospital and these two to appoint a third. Seconded and carried. The President appointed Drs. Center and Shulian. The Secretary read a communication from the Illinois State Department of Health to the effect that the Governor had proclaimed the week of April 25 to May 1 as public health week. The chairman ruled that the manner in which the medical society participate in this week be placed in the hands of our Public Health Committee, Dr. Center, chairman. The Secretary then read the following resolution and moved that it be adopted:

Resolution in Favor of Section of Radiology in The Illinois State Medical Society

WHEREAS, The Central Illinois Radiological Society and the Chicago Roentgen Society, the only Illinois Radiological Societies, the members of which are members of the Illinois State Medical Society, have unanimously resolved to favor the creation of a Section of Radiology in the Illinois State Medical Society, and

WHEREAS, The American Medical Association and several of the State Societies have already created a Section of Radiology, and

WHEREAS, All the National Radiological Societies, the members of which are members of the American Medical Association, have approved of the formation of Sections of Radiology in the respective State Societies, and

WHEREAS, The formation of a Section of Radiology in the Illinois State Society will do much to elevate the radiological profession in Illinois and keep it in the hands of qualified physicians and also increase the attendance at the annual meetings of the State Society, be it therefore

Resolved, That the Adams County Medical Society urge the House of Delegates of the Illinois State Medical Society to establish a Section of Radiology and recommend that the delegate of this society vote for same at the 1926 meeting of the Illinois State Medical Society at Champaign and that a copy of these resolutions be sent to the Secretary of the Illinois State Medical Society to be read to the Council and the House of Delegates.

The above was seconded by Dr. Pearce and carried without a dissenting vote. A communication from the Illinois Tuberculosis Association in regard to conducting a Tuberculosis Clinic in this county was read. The President ordered that this communication be placed in the hands of the Program Committee with the addition of Dr. Pearce, for whatever action they wished to give it. The application of Dr. H. Claude Fortune of Payson, Ill., was read and ordered turned over to the Board of Censors. Dr. J. Tully Snider of Coatsburg was elected a member of the Society.

The scientific program consisted of motion pictures by Drs. Walter Stevenson and Ray Mercer on various eye, ear, nose and throat operations that they had performed on the cadaver. The picture was thoroughly discussed by the membership. Following this Dr. H. J. Jurgens gave a case report on a case of "Ectopic Pregnancy" and Dr. W. S. Knapheide gave a case report on "A Fractured Tibia." Both of these reports were extensively discussed. Through the courtesy of Dr. Harold Swanberg motion pictures were then shown of "Gastric Motor Phenomena" by Dr. Lewis G. Cole, New York City, and "How the Fires of the Body Are Fed," by the U. S. Public Health Service. These pictures were very interesting and instructive, describing the various phases of digestion studied by the X-ray. Dr. Shulian discussed the value of such educational work.

The meeting adjourned about 11:00 P. M.

HAROLD SWANBERG, M.D.,
Secretary.

COOK COUNTY

CHICAGO MEDICAL SOCIETY

Regular Meeting, March 31, 1926

Nephritis, Frederick M. Allen, Morristown, N. J. Discussion, J. P. Simonds, A. J. Carlson, Prof. Physiology University of Illinois, Arthur R. Elliott.

Joint Meeting of the South Side Branch With the Chicago Medical Society, April 7, 1926.

The Decompensating Heart—1. In Childhood, I. A. Abt; 2. In Obstetrics, Jos. DeLee; 3. In Adult Life, Chas. Mix; 4. A Surgical Complication, Jas. Monahan.

Reading Meeting, April 11, 1926

Hypogonadism, Wm. Engelbach, St. Louis, Mo.

Discussion, James H. Hutton, Prof. A. J. Carlson, University of Chicago, and Frank Wright.

Joint Meeting Chicago Medical Society and the Chicago Society of Industrial Medicine and Surgery, April 28, 1926.

1. Disarticulations and Fractures of the Pelvis (lantern slides), B. F. Lounsbury. Discussion, John A. Wolfer and Hugh N. MacKechnie.

2. Unusual Injuries to the Knee Joint, with motion pictures and lantern slides, C. R. G. Forrester. Discussion, F. A. Chandler and Robert O. Ritter.

Personals

Dr. E. J. Berkheiser, Chicago, addressed the Will and Grundy County Medical Society, at Joliet, April 14th, on "Diagnosis of Vertebral Lesions."

Dr. Ralph H. Kuhns, director of the Department of Pediatrics at the Illinois Post-Graduate Medical School, Chicago, spoke April 14th before the Parent Teacher Association of Elmhurst on the subject of the "20th Century Child"; and will speak May 11th at a joint meeting of the Rock Island and Scott Co. Medical Societies at Moline on the subject of "Asthma in Childhood."

Dr. Harold Douglas Singer has resigned as medical director of the Illinois Society of Mental Hygiene.

Dr. Carl A. Hedblom addressed the Chicago Tuberculosis Society, April 8, on chest surgery.

A farewell dinner was recently tendered Dr. Clarence T. Roome, Evanston, who recently resigned as health officer after fifteen years' service.

Prof. Robert H. Gault, Ph. D., of Northwestern University, Evanston, was the guest of honor of the Chicago Laryngological and Otological Society, April 5.

Dr. Arthur Steindler, professor of orthopedics, State University of Iowa College of Medicine, Iowa City, addressed the Chicago Orthopedic Society, April 9, on "Scoliosis."

Dr. Emmet Keating spoke on "Medical Policies and How They Affect You," at a luncheon given by the Women's Bureau of the Illinois Manufacturers' Association at the Hotel La Salle, April 10.

Dr. Duncan D. Monroe, formerly of Dawson Springs, Ky., has been appointed superintendent of the new \$150,000 Madison County Tuberculosis Sanatorium, which will be formally opened May 7.

Dr. Howard L. Metcalf, Springfield, has been appointed medical director of the Springfield Life Insurance Company, and Dr. John C. Eigenmann, Mechanicsburg, assistant medical director.

Dr. Harry A. Singer and Bertha Kaplan, among others, addressed the Chicago Pathological Society at the John Crerar Library April 12 at 8, on "Streptococcus Erysipelatus Toxin-Antitoxin."

Dr. Harry L. Parker, Mayo Clinic, Rochester, Minn., addressed the Chicago Neurological Society at the Drake Hotel, April 15, on "Involvement of the Central Nervous System Secondary to Primary Carcinoma of the Lung."

Dr. Thomas Parran, Jr., U. S. Public Health Service, who has been on duty with the Illinois Department of Health in connection with rural health work, has been relieved; he will go as a representative of this country to the International Health Conference in Denmark in May. A farewell dinner was tendered Dr. and Mrs. Parran at Springfield March 27.

Friends of Dr. Charles Davison, emeritus professor of surgery, University of Illinois College of Medicine, gave a dinner in his honor at the Congress Hotel, April 16, at which a bust of the guest of honor made by Lorado Taft was presented to the University of Illinois. A certificate was presented to Dr. Davidson appointing him attending surgeon emeritus at the Cook County Hospital, on which staff he has served continuously for thirty-two years. Among the speakers at the dinner were David Kinley, L. L. D., president of the University of Illinois; Dr. David J. Davis, dean of the college of medicine; Dr. Edward L. Heintz, an alumnus of the university and chairman of the committee in charge of the dinner; Lorado Taft; Anton J. Cermak, president, board of county commissioners, and Hon. William L. Abbott, ex-president of the board of trustees of the university.

News Notes

—The July issue of *Medical Life* will be a stomatology number devoted entirely to the "History of Stomatology" by Dr. A. J. Asgis of New York. The issue will be profusely illustrated. There will also be a chapter by E. B. Hardisty on "Stomatologic Education in the

Medical and Dental Schools in the United States in 1926."

—Mr. E. F. Holmes has bequeathed \$100,000 to the University of Chicago to further research on the problem of cancer; Miss Harriet F. Holmes, a daughter, has been associated with Maude Slye, Ph.D., in cancer research at the university for many years.

—The dental operating room and the oral surgery unit in the new Passavant Memorial Hospital will be dedicated as a memorial to George H. Cushing, D.D.S., who founded the Chicago Dental Society and the Illinois Dental Society, and was one of the organizers of the American Dental Association.

—The faculty and student council of Rush Medical College of the University of Chicago held an informal reception in the library of the new Rawson Building, April 9, at 8:15; Dr. Frank Billings, for many years dean of the faculty of Rush College, gave an address.

—The Chicago Roentgen Society and the Central Illinois Radiological Society will hold a joint meeting at Champaign, May 18, during the annual meeting of the Illinois State Medical Society; physicians are invited to attend. Programs can be obtained by writing to Dr. Harold Swanberg, 731 Hampshire Street, Quincy.

—For the first time in years the Mississippi Valley Conference on Tuberculosis will be held in Chicago, June 14-17, at the Edgewater Beach Hotel. There will be representatives from the tuberculosis associations of Ohio, Indiana, Illinois, Michigan, Wisconsin, Iowa, Missouri, North Dakota, South Dakota, Minnesota and Nebraska. The purpose of the conference will be to discuss plans for future needs in tuberculosis work.

—More than 400 Chicago physicians, and thousands of nurses and orderlies, according to *Hospital Progress*, will be available during the International Eucharistic Congress, June 20-24, to care for the health of the great number of persons that is expected to be present. There will be a temporary hospital at St. Mary's on the Lake at Mundelein, Ill., eight first aid stations near Grant Park Stadium in Chicago, where the principal ceremonies will be held, and other stations at the Municipal Pier and at the Coliseum.

—The April 23 meeting of the Institute of

Medicine of Chicago at the City Club was devoted to the presentation of work by Chicago investigators; there were in all nine papers presented. Dr. B. Brouwer, professor of neurology, University of Amsterdam, gave an address, April 22, under the joint auspices of the institute and the University of Chicago at the Harper Memorial Library on "The Projection of the Retina on the Brain"; Sir Arthur Newsholme, London, England, will lecture at the Harper Library, May 10 and May 11, 4:30 p. m., on "The Present Position of the Tuberculosis Problem" and "The Growth of Social Insurance in Britain."

—Founded sixteen years ago as a research organization connected with the juvenile court, the Institute for Juvenile Research now is operated by the state. Friends of the institute are raising \$275,000 to finance a five year research program; they recently held a luncheon at the Hotel Sherman, which was attended by more than a thousand persons. Among the speakers were Dr. Adolf Meyer, Henry Phipps professor of psychiatry at Johns Hopkins University School of Medicine; William A. Neilson, president of Smith College; Dr. Ludvig Hektoen, Dr. Isaac A. Abt and Prof. Charles E. Merriam, Ph.D., of Chicago. The secretary of the committee, Joseph H. Schaffner, 36 South Franklin Street, reported that more than \$175,000 had been raised toward the research fund.

—In addition to the examination held at Dallas on April 19th and at San Francisco on April 27th, another examination will be held by the American Board of Otolaryngology at the Otolaryngological Clinic, Royal Victoria Hospital, Montreal, on Tuesday, June 1. Information may be secured from the Secretary, Dr. H. W. Loeb, 1402 South Grand Boulevard, St. Louis, Missouri.

The International Union Against Tuberculosis will meet September 30 to October 2 in Washington, D. C., immediately followed by the annual conference of the National Tuberculosis Association October 4 to 7.

Preliminary arrangements for the international meeting of the National Tuberculosis Association indicate that several of the leading tuberculosis specialists from different European and other foreign countries will be in attendance.

Among the distinguished men and women who have definitely promised to attend and address the meetings of the National Tuberculosis Association are Sir Robert Philip, the founder of the world-famous dispensary system of Edinburgh; Col. S. Lyle Cummins of Cardiff, Wales, director of the King Edward the Seventh Research Foundation for Tuberculosis; Dr. G. B. Roatta of the Tuberculosis Dispensary of Florence, Italy; Prof. Gaetano Ronzoni, professor of medicine at the University of Milan, Italy; Dr. Vittorio Ascoli, professor of medicine at Rome; Dr. Leon Bernard of Paris, professor of hygiene and secretary of the French National Tuberculosis Association; Dr. Edouard Rist of Paris, physician to the Laennec Hospital; Dr. Ferdinand Sauerbruch of Munich, one of the world's leading authorities on chest surgery; Prof. Frederick Neufeld of Berlin, director of the Robert Koch Laboratories; Prof. Lydia Rabinovitch of Berlin, one of the foremost bacteriologists, and Prof. Hans Christian Jacobaeus of Stockholm, Sweden, known throughout the world for his skill in surgery of the chest. It is expected also that among others who may attend the meeting will be Dr. A. Rollier of Leysin, Switzerland, a leading authority on heliotherapy; Dr. F. N. Kay Menzies of London, authority on colonies for cured cases of tuberculosis, and Sir George Newman of London, Minister of Health of Great Britain.

A number of other European and Asiatic tuberculosis specialists have also been invited to attend this meeting. It is anticipated that in quality of material to be presented this international meeting of the National Tuberculosis Association will excel any similar gathering since the International Congress on Tuberculosis of 1908.

Special arrangements will be made for interpreting foreign language papers. All of the papers will be published in the annual volume of Transactions of the National Tuberculosis Association. The sessions of the National Tuberculosis Association are open to all persons interested. The sessions of the International Union Against Tuberculosis are open only to members.

Further information about either of these meetings may be obtained from the Chicago Tuberculosis Institute, 360 North Michigan Boul., Chicago, Ill.

Deaths

ALONZO DEXTER BLAGDEN, Sycamore, Ill.; Bennett Medical College, Chicago, 1886; member of the Illinois State Medical Society; aged 74; died, April 2, of heart disease.

CLINTON G. BUFFINGTON, Decatur, Ill.; Missouri Medical College, St. Louis, 1881; aged 66; died suddenly, March 14.

ELTON ARTHUR CHLOUPEK, Oak Park, Ill.; College of Physicians and Surgeons, Chicago, 1899; aged 51; died, April 3.

FERDINAND FISCHER, Carlyle, Ill.; Eclectic Medical Institute, Cincinnati, 1879; aged 76; died, March 28.

EDWARD J. GABRIEL, Payson, Ill.; St. Louis College of Physicians and Surgeons, 1891; aged 57; died, March 11, at the Blessing Hospital, Quincy.

JARED CHARLES HEPBURN, Chicago; Chicago Medical College, 1890; on the staff of St. Bernard's Hospital; aged 62; died, March 17, at Phoenix, Ariz., of heart disease.

GEORGE SNOW ISHAM, Chicago; Chicago Medical College, 1884; aged 66; died, March 26, at Pinehurst, N. C., of pneumonia.

WILLIAM C. A. LEIPOLD, Chicago; Hering Medical College, Chicago, 1896; aged 63; died, April 2, of intestinal obstruction due to peritoneal adhesions.

CARL CASPER METHOD, Elmhurst, Ill.; Northwestern University Medical School, Chicago, 1925; aged 27; died in March of injuries received when the automobile in which he was driving was struck by a train.

GEORGE STEPHEN MIKKELSEN, Kewanee, Ill.; Chicago College of Medicine and Surgery, 1907; aged 43; died, March 9, at a hospital in Chicago.

JOHN W. MILLER, Wayne City, Ill. (licensed, Illinois, 1888); aged 78; died, March 11, at the Deaconess Hospital, St. Louis, of pneumonia.

HARRY SCHUYLER OYLER, Lincoln, Ill.; Marion-Sims College of Medicine, St. Louis, 1901; served during the World War; aged 55; died in March, at the Deaconess Hospital, of interstitial nephritis.

EBENEZER LEE PALMER, Noble, Ill.; Eclectic Medical Institute, Cincinnati, 1877; also a druggist; aged 71; died, March 23, at the Olney (Ill.) Sanitarium, of diabetes.

THOMAS JOHN SULLIVAN, JR., Chicago; University of Illinois College of Medicine, Chicago, 1915; member of the Chicago Orthopedic Club; on the staff of the Mercy Hospital; served during the World War; aged 36; died, March 23, of chronic nephritis.

ANDREW TEN BROOK, Bloomington, Ill.; Jefferson Medical College of Philadelphia, 1876; aged 72; died, March 30, of cerebral hemorrhage.

JOHN C. WHITE, Seatonville, Ill.; M.R.C.S. and L.R.C.P., England, 1867, L.R.C.P., Edinburgh, and L.S.A., London, 1868; for many years postmaster of Seatonville; aged 79; died, March 22, at Decatur, of pneumonia following erysipelas.

JOHN M. WILKINS, Martinsville, Ill.; Vanderbilt University Medical Department, Nashville, 1878; Civil War veteran; aged 80; died, March 20, of valvular heart disease.

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Bibliography:

- [1] Chapman, J. W., Calif. & Western Med. Dec 1925. Vol. XXIII. No. 25. [3] Marriott, W. McK. and Davidson, L. T. J. A. M. A. 1923. Vol. 81, pg 2007.
[2] Weeks, V. J., Archives of Pediatrics, Nov. 1925, Vol. XLII. No. 11. [4] Gleich, M., Archives of Pediatrics, 1924. Vol. 41, pg. 548.

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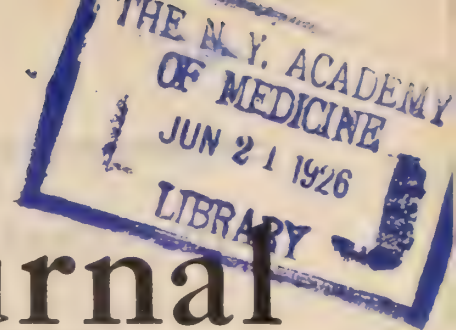
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OAK PARK, ILL., JUNE, 1926

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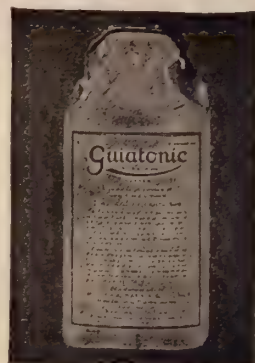


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ILLINOIS MEDICAL JOURNAL

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Membership correspondence to Dr. Harold M. Camp, Monmouth, Ill.

Society proceedings and news items and changes in the mailing list to Dr. Henry G. Ohls, Managing Editor, 1618 Juneway Terrace, Chicago.

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Editorial

THE 76TH ANNUAL MEETING

The Seventy-sixth Annual Meeting of the Illinois State Medical Society was held at Champaign-Urbana May 18 to 20. The meeting was one of the best the Society has ever held. The attendance was nearly one thousand. Every thing that could be done to make the meeting successful, was done. The Mayors of the Twin Cities, The University of Illinois, The Chamber of Commerce, and every other organization there, assisted the Committee on Arrangements to make the Society's sojourn there, most pleasant.

The programs were well arranged and carried out according to schedule. The usual custom was changed, in having two men on each Section program from outside the State of Illinois, and this proved to be a popular procedure. Diagnostic and teaching clinics were held in joint session Wednesday afternoon and Thursday morning, which were very instructive and well attended. In addition to the many commercial exhibits, there were some interesting scientific exhibits from the University of Illinois Research Departments, University of Illinois Medical School, Northwestern University Medical School, the American Medical Association, and other organizations. The University of Illinois had an exhibit of the recently discovered element "Illumium."

The following officers were elected by the House of Delegates:

President-elect, G. Henry Mundt, Chicago.

First Vice-President, Earl D. Wise, Champaign.

Second Vice-President, C. S. Nelson, Springfield.

Secretary, Harold M. Camp, Monmouth.

Treasurer, A. J. Markley, Belvidere.

Councilor, 1st District, D. B. Penniman, Rockford.

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 Councilor, 8th District, Cleaves Bennett, Champaign.

Councilor, 10th District, J. S. Templeton, Pinckneyville.

The following delegates and alternates to the American Medical Association were elected:

Delegates—E. P. Sloan, Bloomington; R. L. Green, Peoria; T. O. Freeman, Mattoon; C. J. Whalen, Chicago; W. A. Pusey, Chicago; J. S. Nagel, Chicago.

Alternates—G. C. Otrich, Belleville; A. Alguire, Belvidere; G. C. Brown, Ste. Marie; S. J. McNeill, Chicago; N. S. Davis, Chicago; Emmet Keating, Chicago.

On account of the fact that the old 9th Councilor District was composed of 23 counties, and its territory was approximately 150 miles each way, the House of Delegates voted to create a new 10th Councilor District composed of the following counties: St. Clair, Washington, Monroe, Randolph, Perry, Jackson, Union, Alexander and Pulaski. J. S. Templeton of Pinckneyville was elected Councilor of the new district.

The Society will meet in Moline for the 1927 meeting; the exact date will be selected within a short time.

The proceedings of the House of Delegates will be published in the July issue of the JOURNAL.

The portrait of President Pfeifferberger appears as a supplement in this issue.

MEETING IN HONOR OF DR. J. C. KRAFFT

Friday evening, May 7, the Physicians Fellowship Club convened to do honor to Doctor J. C. Krafft, one of their charter members and President of the Illinois State Medical Society.

All but two of the speakers were prominent members of the State Society living outside of Chicago. They came from as far away as Springfield to tell the club of the fine record made by Doctor Krafft in the year that will close with the annual meeting at Champaign.

Doctor Frank R. Morton, Secretary of the Chicago Medical Society, told of the campaign for membership that has just been made to increase the numerical strength of the Chicago Medical Society and informed the members that he had made arrangements for a room at Champaign to be used as headquarters for the physicians from Cook County. Doctor W. D. Chapman,

chairman of the State Council, called our attention to the fact that the present Post Master General is the first physician to sit in the cabinet of the President of the United States since the administration of George Washington. He dwelt upon the immense amount of work necessary to the advancement of interests of the State Society and well said that "the mantle would continue to fall upon the shoulders of those willing to work."

Doctor J. W. VanDerslice spoke of the difference in knowledge of medical economics and of what was for the good or ill of the medical profession, possessed by members of the House of Delegates of the American Medical Association today as compared with the vague understanding of the delegates of only a few years ago.

Doctor Edward H. Ochsner sounded a warning against physicians relinquishing their duties as teachers and controllers of medical colleges and of permitting nurses and other lay individuals to render service to patients that could be properly given by physicians only.

Doctor Harold Camp, Secretary of the State Society, gave a short history of the founding of the State Society and reminded us of the difficulties of those pioneers who kept the torch alight when roads were muddy and transportation was hazardous and time-consuming.

Doctor Camp spoke of the necessity of an endowment fund for the Lay Education Committee, which was first recommended to the House of Delegates by the Public Policy Committee last year at the Quincy meeting.

Doctor J. R. Neal, the efficient and faithful guardian of the public and the profession at Springfield, laid special stress upon the vital importance of the local societies making it their watchful duty to see that the legislators in their respective districts are properly informed, and have an intelligent understanding of what is good for the public in matters pertaining to health.

In closing, Dr. Neal very aptly quoted:

"One ship drives east and one drives west
 By the self-same wind that blows;
 It's the set of the sail, and not the gale,
 Which determines the way it goes."

—reminding us that our Krafft was returning to the home port after a strenuous and successful voyage and that all of us who could should be at Champaign to give him a hearty welcome,

THE MEDICAL AND DENTAL ARTS CLUB OF CHICAGO—A PERMANENT HOME FOR MEDICINE, DENTISTRY AND ALLIED INTERESTS

Successful development of plans of the Medical and Dental Arts Club for erection of a building in down-town Chicago will have far-reaching effect on professional activities in Chicago and throughout the central part of the country. In its main features the plan is by no means new. Need and desirability of a special building and permanent home for professional men and organizations of Chicago has been recognized for years. Chicago Medical Society records show that by this body a permanent home has been frequently discussed. For almost twenty years, one of the permanent committees of the Chicago Medical Society was what was known as the "Permanent Home Committee." In the bulletin of the Chicago Medical Society for November 4, 1905, appears a list of standing committees. At that time the permanent home committee consisted of Dr. Nicholas Senn, Dr. Frank S. Johnson, and Dr. D. J. Doherty. At the Council Meeting for February 13, 1906, Dr. C. S. Bacon, President, appointed Dr. J. B. Herick as a member of this committee.

On October 4, 1905, the Physicians' Club held a meeting at the Sherman House. Dr. Frank Billings was Chairman and Toastmaster. The subject for the evening was "A Permanent Home for the Chicago Medical Society." Dr. Charles Loomis Dana of New York was the guest of honor. He spoke on the history of the New York Academy of Medicine and offered suggestions as to how the Chicago Medical Society could secure a permanent home. Discussion was led by Dr. Fernand Henrotin, Dr. Nicholas Senn, and Dr. E. Fletcher Ingals. Many of the men are gone who were associated with this discussion 25 years ago. Now, long after their time, the first practical plan has been developed for giving permanent quarters to the medical and dental professions of Chicago.

All efforts in the past failed of development because when carefully analyzed, it will be seen that all such proposed plans had some radical, fatal defect.

The first difficulty has been that these endeavors were isolated efforts on the part of individual organizations. Neither the Chicago Medical Society, the Chicago Dental Society, the

Institute of Medicine, nor any of the special societies is large enough and strong enough by itself to buy a site under present real estate conditions, and to erect and operate a building successfully from a business standpoint. For each of our thirty or forty special organizations to attempt to secure and to maintain a home of its own would be impossible and wasteful. The present movement is a demonstration of the adage that "In union there is strength." What cannot be done by each organization separately can be done by all when working in harmony. Past efforts have been limited to collection of funds by subscription. Subscription papers are never popular. By selling memberships, the individual is given something for his money. In this case membership carries part ownership and an equity in a down town office building. A similar opportunity has never before been presented to Chicago professional men. Now under consideration is issuing stock in proportion to membership payments. If adopted, as seems probable, these memberships will support and promote a permanent professional home for all of our organizations, and they will be a very profitable and desirable form of investment.

Owing to the peculiar geographic situation of Chicago, any plan for a professional center must include a location in the down town district. Because of the high price of down town real estate and the amount necessary for financing a building in the "loop," any building proposition to be successful must provide sufficient income from the building to meet the overhead and upkeep of the building, as well as to provide funds for paying the interest and retiring the bonds over a term of years. No single existing professional or scientific organization could expect to acquire a site and to erect a centrally located building. Combined rentals of all of our professional organizations would not furnish sufficient income to make such a plan financially successful. It is absolutely necessary, therefore, that an adequate proportion of the total space in such a building should be available for rental and should provide a sufficient income to carry out successfully the financial plan. There are two obvious sources from which tenants of such a building should be secured. One is from physicians and dentists desiring office space in a thoroughly modern building owned by themselves. The other from commercial firms dealing in medical and

dental supplies, who would naturally prefer to be located in a building devoted entirely to professional purposes.

operating a professional building can do what purely professional and scientific organizations can not do in the way of financing and manag-



Medical and Dental Arts Club of Chicago

The Medical and Dental Arts Club, composed entirely of members in good standing in the Chicago Medical and Chicago Dental Societies and incorporated for the purpose of building and

ing a building for physicians and dentists. This club is in effect a holding company by which each and everyone of our professional bodies can preserve its own identity and independence, and at

the same time can participate and share in the benefits and advantages of a permanent home without assuming any legal or financial responsibilities or liabilities of its own. All that is necessary, is for the leading members of each of these separate organizations to become members of the club and by their financial and personal support assist in completing this project. Ample room will be provided in the new building for regular meeting places for each of our professional organizations both large and small.

Erection of a suitable and impressive building in the down town part of Chicago, owned and conducted by the medical and dental professions will be a demonstration and object lesson to the public of the standing and influence of these professions. The plan being worked out by the Medical and Dental Arts Club is the only tangible and definite idea for a suitable and permanent home for our medical organizations. It is the only one that has developed to the point of actual purchase of a valuable site and erection of a building. Interests of the membership and of the professions have been safeguarded in every possible way. The plan is endorsed by architects, lawyers, bankers, bond houses, and by construction companies, as thoroughly sound and feasible. Everything possible is being done to secure a beautiful, commodious, and centrally located home for all of our professional activities. It will be located in the center of the down town part of Chicago and it will be the center of professional activities for the next hundred years. All that is needed to complete this enterprise successfully and triumphantly, is the support and active co-operation of the leading men in the two professions. Membership is limited to 2,000 resident members, of which 600 will be life members and 1,400 regular members. Over one-half of the life memberships have been sold. Approximately 800 memberships of all kinds have been taken. It is safe to say that in two years, after the building is completed and opened, the Medical and Dental Arts Club will have a waiting list as have all the other down town clubs at present, and that the price of memberships will have advanced from 30 to 100 percent. If the membership campaign can be completed in the next three months, there will be ample funds for meeting present financial obligations, and for promoting the purposes of

the organization and providing for the privileges and comforts for the members.

TEXAS MEDICAL ASSOCIATION COMMEND DR. C. ST. CLAIR DRAKE

Dr. C. St. Clair Drake, former Director of Public Health in Illinois and at present making a survey of health agencies in the United States for the American Public Health Association, has ingratiated himself into the confidence of the practical hard boiled red blooded doctors of the self centered state of Texas as is apparent from the following resolution passed by the Texas State Medical Association, Section on Public Health. The following is the resolution:

Houston, Texas, May 26, 1926.

Be it Resolved, That the section on Public Health and State Medicine of the Texas State Medical Association express its thanks and appreciation to the American Public Health Association for the services rendered to the State and City Health Officials of Texas by Dr. C. St. Clair Drake. His guidance and support have helped these officials to promote plans and programs looking to the up-building of public health service in the cities of Texas through the co-ordination of the work of the official and unofficial agencies, the standardization of public health practice, and the harmonizing of these practices with the policies approved by the medical profession.

The above resolution unanimously adopted.

L. H. MARTIN, Secretary.

W. A. KING, Acting Chairman.

AMENDING THE NARCOTIC LAW

The following are the proposed amendments to the present narcotic law. They should be read carefully by every physician in connection with the provisions of the old law and in connection therewith we suggest reading carefully editorial comment on the subject published elsewhere editorially in this issue and also comments in the Journal of the American Medical Association and other medical journals. After doing so we suggest that the individual members of the profession write the members of the committee on finance of the United States Senate and get busy with local senators and congressmen.

The following are the proposed amendments:

69th Congress
1st Session

S. 4085

IN THE SENATE OF THE UNITED STATES

April 19 (calendar day, April 24), 1926

Mr. Smoot introduced the following bill; which was read twice and referred to the Committee on Finance:

A BILL

To strengthen the Harrison Narcotic Act of December 17, 1914, as amended, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the Harrison Narcotic Act of December 17, 1914, as amended, be further amended as follows:

SECTION 1. Strike out the period at the end of the fourth paragraph of section 1, substitute a colon, and add the following: "Provided, That any person addicted to the habitual use of opium or coca leaves, or any compound, manufacture, salt, derivative, or preparation thereof, when such use is not in the course of professional practice only, shall not be allowed to register under this Act: And provided further, That in addition to any penalty which may be imposed under section 9 hereof, any person hereafter convicted of a violation of this Act shall not be granted registration under this Act for a period of one year from the 1st day of July next following the date of such conviction."

SEC. 2. That the second clause of the twelfth paragraph of section 1 be changed to read as follows: "and the absence of appropriate tax-paid stamps from any of the aforesaid drugs shall be prima facie evidence of a violation of this section in the judicial district where such drugs are found by the person in whose possession the same may be found."

SEC. 3. Section 2, subsection (a) is hereby amended to read as follows: "To the dispensing or distribution of any of the aforesaid drugs to a patient by a physician, dentist, or veterinary surgeon registered under this Act in the course of his professional practice only: Provided, That no dispensing or distribution of the aforesaid drugs pursuant to the so-called ambulatory treatment for narcotic-drug addiction shall be construed to be in the course of his professional practice only: Provided, That such physician, dentist, or veterinary surgeon shall keep a record of all such drugs dispensed or distributed, showing the amount dispensed or distributed, the date, and the name and address of the patient to whom such drugs are dispensed or distributed, except such as may be dispensed or distributed in emergency cases only; and such record shall be kept for a period of two years from the date of dispensing or distributing such drugs, subject to inspection, as provided in this Act."

SEC. 4, Section 2, subsection (b), is hereby amended by inserting the following proviso after the first clause and before the first proviso thereof: "Provided, That such drugs shall not be sold, dispensed, or distributed

under circumstances from which the dealer might reasonably deduce that the prescription was not issued by the physician, dentist, or veterinary surgeon in the course of his professional practice only: And"

SEC. 5. The first sentence of the second proviso of section 6 is hereby amended to read as follows: "Provided further, That any manufacturer, producer, compounder, or vendor (including dispensing physicians) of the preparations and remedies mentioned in this section shall keep a record of all purchases, sales, exchanges, or gifts of such preparations and remedies in such manner as the Commissioner of Internal Revenue, with the approval of the Secretary of the Treasury, shall direct."

SEC. 6. That in the enforcement of the Act of Congress of December 17, 1914, known as the Harrison Narcotic Act, as amended, the provisions of section 3450 of the Revised Statutes shall apply, in so far as they are in anywise applicable thereto, and the said provisions of said section are hereby reenacted for that purpose.

STRIPPING THE MEDICAL PROFESSION OF ITS POWERS AND GIVING THEM TO A BODY OF LAWMAKERS

THE PROPOSED AMENDMENT TO THE HARRISON NARCOTIC ACT—EVERYBODY SEEMS TO KNOW ALL ABOUT DOCTORING EX- CEPT THE DOCTORS

Further interference with the practice of medicine by politicians and lay people is being constructed under the proposed amendment to the Harrison Narcotic Act of Dec. 17, 1924. Everybody seems to know all about "doctoring" except the doctors!

If this amendment goes through, and it is likely to do so unless protest and pressure are brought to bear upon the men who make the laws at Washington, the public welfare will be seriously menaced. Further, this will be still another step in taking the practice of medicine out of the hands of men trained to alleviate human suffering and placing it under the jurisdiction of men who know nothing about it at all.

Ignorance is no excuse for what is about to happen. If eighty per cent of the medical men had realized the hardships accruing from the original Harrison Narcotic act there is no doubt but that it would have been prevented of enactment. Now comes another bundle of red tape. Nor is this all. The narcotic question is not the only one involved. But this amendment, as involved in Senate bill 4085, as introduced by Mr. Smoot on April 19 (calendar day April 25) read

twice and referred to the Committee on Finance, is the most drastic of all steps in stripping the medical profession of its powers and giving them to a body of lawmakers.

For if the Federal Government can prescribe and regulate the administration of drugs with narcotic qualities, so also can the Federal Government through this precedent, prescribe and regulate the administration of anything from bicarbonate of soda to mercury. The human body is too sacred an affair to be left at the mercy of all the men and women who have but a cursory knowledge of its functions. Yet unless there is a united and a stentorian protest against such measures as this Harrison Narcotic Bill amendment, that is exactly what is going to happen.

Nobody dreams of telling a tailor how much thread he shall make in a coat, nor how many needles he shall use on his sewing machine, nor how much water shall go under his "goose."

Yet a suit of clothes is a comparatively trivial and easily duplicated affair. Yet tailors and other craftsmen are presuming to dictate to men trained in the walks of science how science shall be interpreted to the enduring welfare of the human race.

The Harrison Narcotic law should never have been placed upon the Statute books of the United States. It is to be granted that the well-meaning blunderers who put it there had in mind only the idea of making it impossible for addicts to secure their supply of "dope" and to prevent unprincipled people from making fortunes, and fattening upon the infirmities of their fellow men.

As is the case with most prohibitive laws, however, this one fell far short of the mark. So far in fact, that instead of stopping the traffic, those who deal in dope, now make double their money from the poor unfortunates upon whom they prey.

Illegitimacy thrives and the legitimate uses of narcotics are brought to bay and are in a pitiable state as a result of this law.

The doctor who needs narcotics used in reason to cure and to allay human misery finds himself in a pit of trouble. The lawbreaker is in clover.

Mere draughting of a law does not enforce it. Prohibition enforcement is such a farce that no mention of it need be made. For ages men have legislated prostitution out of existence, yet

uncontrolled sex appetites still do business at the same old stands.

Nature and the human emotions are subject to individual control, not black and white laws. It is costing the United States more to support bootleggers of both narcotics and alcoholics than there is good coming from the farcical laws now on the statute books.

As to the Harrison Narcotic law, it is as with prohibition legislation. People are beginning to ask, "Who did that, anyway?"

The protest against mock prohibition has already been carried to the nation's capital. The doctors should take up their cudgels and let a nation know that the laws prohibiting the dispensing of narcotics through legitimate channels for legitimate uses are merely hurting the nation they strive to help.

If this pending bill is enacted, a physician cannot dispense or distribute narcotic drugs pursuant to the so-called ambulatory treatment of drug addiction. Every doctor knows what this means. What will occur in thousands of instances if there is institutionalizing of every addict? It can't be done. And even if it were, who will foot the bill?

As an invasion of state rights for the benefit of a central bureaucracy, descending to colloquialism, this pending bill is a humdinger. If through its taxing power the federal government is permitted to determine those who may and who may not prescribe narcotic drugs by eliminating narcotic addicts or otherwise, it can extend this paternalism over the administration of anything else. Also it can tell each and every state just how to treat any case of disease should be treated. Gadzooks and gamins! Why call the town blacksmith to confine one's wife? Yet if the federal government decides that in Illinois such shall be the case, Illinois is going to have to stand for such supernonsense, after the workings of the amendments of the Harrison act and a few more shall have gotten into their stride.

The situation is absurd beyond belief. Yet in its very absurdity lies its strength. The thing that people consider so untoward as to be beyond the realm of happening is the thing that happens always. What is going to occur when state medical practice acts are superseded by federal statutes?

It means that medicine will be practiced by anybody from the corner newsboy to a chiroprac-

tic and ridiculous as this seems on the surface every statute points that way.

Now is the time for every physician worthy of the name to constitute himself a self-appointed committee of one and to make a personal and direct campaign among all of the politicians especially among those who sit in power and glory and mischief in the halls of the capitol at Washington.

Community, county and state medical societies and societies of special branches should begin this task at once. Help of the public press should be solicited.

Another evil angle is that the red tape involved in keeping track of the dispensing of narcotics, according to this amendment devolves upon the shoulders of every physician, the enlistment of an office force to keep track of what drugs are given and what are not. This is meddling in the rights of the individual to an unwarranted degree. The glory of a democracy is the protection of the privacy of individuals and homes.

Lady Cynthia Mosely and the Hon. Oswald Mosely came here from England this winter and declared themselves rabid socialists. When they saw what the American workingman had in the way of living conditions and comforts these two "pink socialists," as Mr. Mosely's own father calls them, took several steps backwards. They admitted that the socialists in America had more than the well-to-do in England and that the questions were far from similar in perspective.

That's the trouble with this reform legislation. The reformers do not know of what they speak.

This bill places czaristic police powers upon employes of the government and even the United States Supreme Court thus states the case: "The declared object of the Narcotic Law is to provide revenue, and this court has held that whatever additional moral end it may have in view must 'be reached only through a revenue measure and within the limits of a revenue measure.' Congress cannot, under the pretext of executing delegated power, pass laws for the accomplishment of objects not entrusted to the federal government. . . . Obviously, direct control of medical practice in the states is beyond the power of the federal government. Incidental regulation of such practice by Congress through a taxing act cannot extend to matters plainly inappropriate

and unnecessary to reasonable enforcement of a revenue measure."—*Linder v. United States*, 268 U. S. 5, decided April 13, 1925.

Now in view of the fact that:

"Every prescription issued by a physician for a narcotic drug will be subject to review by any pharmacist who may be called on to fill it, if the pending bill is passed. If there are present 'circumstances from which the dealer might reasonably deduce that the prescription was not issued by the physician, dentist or veterinary surgeon in the course of his professional practice only,' the pharmacist cannot lawfully fill it. It is not necessary that the pharmacist actually deduce that the prescription was not issued in the course of professional practice; it is sufficient that he might reasonably do so. What constitutes 'the course of professional practice only,' the bill does not state. It presumes apparently that any pharmacist can determine in his pharmacy what took place in the sickroom or in the physician's office, and that he is sufficiently acquainted with the normal course of professional practice to be entrusted safely with statutory authority to refuse to any sick person medicine that the attending physician has prescribed," it would seem that the answer to the question, "Who practices medicine in the United States and who tells the sick how to get well?" should be, "Everybody in the country except the physician who is trained and expert in that branch of science and civilization."

One is moved to cite also the facts as stated that

"The purpose of this bill, says Assistant Secretary of the Treasury Andrews, is 'to clear up certain points which have been raised in certain courts to the disadvantage of the government.' These points are to be cleared up (1) by requiring collectors of internal revenue to refuse registration to physicians whom they believe narcotic addicts; (2) by requiring pharmacists to determine whether physicians' prescriptions were or were not issued in the course of professional practice, and to refuse to fill such as the pharmacist may reasonably suspect of not having been so issued; (3) by compelling physicians to keep records of every dose of any narcotic dispensed by them, except such as may be dispensed in emergency cases; (4) by forbidding everywhere the ambulatory treatment of narcotic addicts; (5) by requiring physicians to keep records of all

purchases of so-called exempt narcotic preparations, and (6) by denying registration for a period of from one to two years to any physician convicted of any violation of the Harrison Narcotic Act.

"Any collector of internal revenue, if this bill is enacted, must refuse to register under the Harrison Narcotic Act any narcotic addict. No preliminary notice and hearing are required. No grace is granted the unfortunate addict undergoing treatment in the hope of cure. Discretion is not allowed the collector. A narcotic addict cannot register, and the collector must act on such evidence as he has. The physician refused registration is left to redress in court, with all the publicity and loss of professional prestige which that procedure entails.

"The laws of many states already provide that licenses to practice medicine may be revoked if the licentiate is a narcotic addict. The Treasury Department presumably has knowledge of addicts holding such licenses, or it would not have asked the right to refuse registration to such persons. Its field officers, however, instead of being charged with the duty of initiating action before state licensing boards looking toward the revocation of such licenses, are expressly instructed not to do so. That the disclosure of the information they possess is not unlawful is shown by the fact that they may disclose it on request of a state licensing board. But the Treasury Department keeps these boards in darkness. Why it thus refuses to avail itself of existing agencies effectually to bar narcotic addicts from practice, while it seeks authority to accomplish the same end to a limited extent through this legislation, is difficult to understand. The only guess that can be hazarded is that while the evidence of addiction in possession of the Treasury Department may satisfy some lay collector of internal revenue, vested with arbitrary power, as to the habits of would-be registrants, it would be of doubtful value if submitted to an impartial tribunal of physicians, when the registrant could introduce evidence on his own behalf.

"The fact that Congress may not have authority to confer on the Treasury Department the power it here seeks does not seem to have occurred to those who drafted this bill. To determine who is and who is not fit to prescribe, administer and dispense narcotic drugs is to regulate the practice of medicine, whether that

determination is based on supposed narcotic addiction or on any other grounds; and the regulation of the practice of medicine within a state is beyond the power of Congress."

The Board of Directors of The White Cross, Inc., of which Martin Conboy is chairman and W. K. McKibben secretary and associate directors, has adopted this resolution:

WHEREAS, there was introduced in the Senate of the United States on April 19 (Calendar day April 24), 1926, a bill (S 4085) to strengthen the Harrison Narcotic Act of December 17, 1914, as amended; and

WHEREAS, it would seem desirable for the Congress of the United States, in connection with the consideration of such proposed amendatory legislation, to review the field of narcotic regulation with a view to adopting legislation which will conform the regulation of such trade to the situation as developed by such an investigation; now, therefore,

Be it Resolved, That The White Cross, Inc., request Hon. Reed Smoot, a member of the Senate, to secure opportunity for hearings on Senate Bill 4085, at such time as will facilitate full representative expressions by those interested in the narcotic problem and in case further inquiry is thought advisable then Mr. Smoot is requested further to obtain a federal investigation, by a committee to be appointed for that purpose, of the narcotic situation in this country, with a view to obtaining a better understanding of the narcotic evil, and the adoption of such legislation as such an investigation will suggest.

"SAY IT WITH BRAKES AND SAVE THE FLOWERS"

"Say it with brakes and save the flowers,"
A pretty good hunch for this world of ours,
Where every one whizzes and rushes by
With a sneerful snort and a raucous cry,
Where no one's supposed to be doing well
Unless he is riding for leather'n' hell—
Step on the gas, boys . . . into the grave,
Think of the flowers a feller could save!
"Say it with brakes and save the flowers"—
Good for the peoples, good for the powers;
Good for the man in the buzzing bus;
Good for the birds on the curb who cuss;
It's good for you and it's good for me,
One smack of a crack of a fine idee
For this speed-mad crazy old world of ours:
"Say it with brakes and save the flowers."

—J. P. McAvoy.

Book Reviews

NURSERY GUIDE FOR MOTHERS AND CHILDREN'S NURSES. By Louis W. Sauer, M. D. Second Edition. St. Louis. The C. V. Mosby Company. 1926. Price, \$2.00.

In this edition the scope has been broadened to include advice and diets pertaining not only to the infant but to the pre-school child.

A MANUAL OF NORMAL PHYSICAL SIGNS. By Wyndham B. Blanton, M. D. St. Louis. The C. V. Mosby Company. 1926. Price, \$2.50.

In this book the signs of disease are omitted. It is intended as a brief compilation of normal findings in healthy individuals assembled to aid students.

THE THYROID GLAND. B. Charles H. Mayo, M. D., and Henry W. Plummer, M. D. The Beaumont Foundation Lectures Series No. 4 Auspices of Wayne County Medical Society, Detroit, Michigan. St. Louis. The C. V. Mosby Company. 1926. Price, \$1.75.

This work covers the subject of the thyroid gland in all its phases. The extent of work done upon thyroid disease can scarcely be comprehended by any one who has not given the subject special thought. The Mayo Clinic has been favored in having the largest group of thyroid cases ever assembled. This work gives the summary of their experience.

SIXTY YEARS IN MEDICAL HARNESS.. By Charles B. Johnson, M. D. With an introduction by Victor Robinson, M. D. The Medical Life Press, New York, 1926. Price, \$3.

Dr. Johnson has already written more than one book, or monograph, upon medical life, as, for example, one upon "Illinois in the 60's," another upon "Muskets in Medicine," and still another upon "Medicine in Champagne County." In more than 300 pages he writes in an entertaining way of points in his career which he thinks will be of interest not only to those of his contemporaries who may survive, but to younger medical men as well. The book is freely illustrated with pictures which are suitable to the text, and its text defines the situation which pursued the profession of medicine decade by decade from 1802 until 1925. Sadness and joy are pictured from time to time in a telling way, and the author goes outside his immediate surroundings to write clearly of eminent medical men in various parts of the United States who stood first and foremost in their day and generation.

COFFEE DRINKING BY THE AGED

The human body with advancing age has a marked tendency to become more sensitive to stimulants such as caffeine, and the excitement of the nervous centers is less well borne in senescence than in the prime of life. With age comes increased nervous irritability and the need for more repose and sleep. The use of the stimulants coffee and tea by old people is, therefore, of questionable propriety.

Professor Oliver T. Osborne recently pointed out (*Medical Journal and Record*, 120 (1924), supplement, CLXIII) some of the dangers that are liable to accompany a tea or coffee habit in old age. He says: "The action of caffeine (on the aged) is to increase general nervous irritability, cause polyuria, and especially to stimulate the thyroid and parathyroids to abnormally increased activity, with the result of more nervous irritability and muscular irritability and trembling. Caffeine often raises the blood pressure, where such an increase of blood pressure is not needed." He states further than coffee and tea are likely to increase the production of uric acid and that this substance is liable to irritate the kidneys and cause muscle and joint pains in old people. Professor Osborne is of the opinion that caffeine-containing beverages serve no useful purpose in the case of the aged and that caffeine should be entirely avoided except in instances where the therapeutic use of the alkaloid is indicated.

Dr. Malford W. Thewlis, in the second edition of his book entitled "Geriatrics," calls attention to the increased susceptibility of old people to the stimulating action of tea and coffee. He urges a curtailment of the use of these drinks in senescence. The use of caffeine-containing beverages with the evening meal he considers very liable to interfere with sleep. Dr. Thewlis directs notice to the supersensitiveness which old people frequently exhibit towards certain drugs; he believes that the old rule that "children and the aged cannot stand large doses" is not without foundation. Ordinary observation shows that the aged are more susceptible to caffeine than younger persons. It is not at all uncommon to hear individuals past the prime of life say they can no longer drink coffee because it keeps them awake.

Even Professor Samuel C. Prescott, who made an investigation of the effects of coffee and came to the conclusion that it is harmless for the majority of adults, says that "many individuals find with advancing years that smaller quantities (of coffee) will suffice," thus conceding that people do become more sensitive to caffeine as they grow older.

It is generally known that caffeine stimulates the heart's action and thus tends to raise the blood pressure. While caffeine is a vaso-dilator as well as a heart stimulant, its dilating action upon the hardened vessels of the aged will be less effective than in the case of younger persons; hence the increased pressure due to the heart's action will not be compensated for by relaxed arteries, and the blood pressure will accordingly increase.

Finally it can be stated that in old age sedatives rather than stimulants, such as caffeine, are called for; old people should avoid the stimulants tea and coffee, not only because they are undesirable irritants of the nervous system, but also because they have a harmful effect on the blood pressure, cause excessive uric acid production within the body, and may, as Professor Osborne points out, produce abnormal activity of the thyroids and parathyroids.—*From Mellon Institute of Industrial Research.*

Original Articles

THE MEDICAL ASPECTS OF GALL BLADDER DISEASE*

JOSEPH L. MILLER, M.D.
CHICAGO

The treatment of gall bladder disease is surgical. The diagnosis, however, is usually made by the internist, who may call to his aid the laboratory worker or the roentgenologist. It is he who usually confers with the patient and determines whether surgical interference at once is desirable or whether further observation is advisable, especially for the purpose of more fully establishing the diagnosis. He is occasionally called upon to diagnose and treat some of the post-operative complications, as massive collapse of the lung or pneumonia.

The most difficult of these tasks is the diagnosis. The greater the experience of the physician, the greater the realization of possible pitfalls. As we see patients who have had cholecystectomies and have not been relieved of their discomfort, we realize that a symptom complex resembling gall bladder disease may be simulated by other conditions. In many of these unsuccessful cases a pathological gall bladder has been found at the time of operation, evidence that the mere presence of pathology does not necessarily mean that it is giving rise to symptoms. It is the opinion of the author that the diagnosis or exclusion of gall bladder disease may be the most difficult encountered in the entire field of internal medicine. It may require prolonged observation and the careful questioning and examination of the patient after each seizure. This is especially true of those cases where the discomfort which appears periodically is mild in character. Icterus following the attack is highly significant, but not absolutely diagnostic as syphilis of the liver may give rise to severe hepatic colic followed by jaundice and yet at operation the gall bladder may appear normal. Chills and fever with liver syphilis is far from uncommon and may follow an attack of severe pain and be followed by jaundice. During my interne days, two patients with recurrent pain, jaundice, and fever were operated upon the same day by two of Chicago's most distinguished surgeons, Dr. Christian Fenger and Dr. J. B.

Murphy. Both had syphilis of the liver and, as far as could be determined, no other pathology. Riedel advised that except in great urgency all patients where the diagnosis of cholelithiasis was made, be given first a course of anti-luetic treatment in order to see if a cure could be affected. This was before the days of x-ray and the Wassermann test. Provided lues can be excluded, periodical attacks of characteristic pain followed by jaundice and localized tenderness warrant the conclusion that surgery is indicated. If the x-ray adds confirmatory evidence, well and good. The VanDen Bergh test, which enables us to detect bile in the blood stream in small amounts insufficient to produce visible icterus, should be a great aid in diagnosing atypical attacks. It should be born in mind that calculi may pass into the common duct causing occlusion without pain. Here the presence of icterus and fever with local tenderness enables the clinician to localize the trouble, although not permitting him to diagnose its exact nature. Severe epigastric pain without fever but associated with a leucocytosis is suggestive of gall bladder disease, as gastric pains or spasm of the colon do not give leucocytosis. When a patient has an intense paroxysmal pain in the abdomen, it is frequently impossible for him to localize the area of greatest discomfort. He will observe, however, the radiation of pain. When the pain passes either through to the right scapula or passes around the right lower thorax, gall bladder involvement is suggested. Questioning the patient as to where he first noticed the pain at the onset, or from what area it was last to disappear may be of value.

Biliary colic may appear any hour—day or night. Formerly it was taught that paroxysms of pain occurring during the night were suggestive of biliary colic. We know now that a duodenal ulcer is very frequently troublesome in the early morning hours. Appearance of pain after jolting, as long automobile or bus trips, suggests a biliary or renal origin and speaks against spastic colitis or peptic ulcer. The frequency of the attacks and their relation to meals is important and careful questioning on this point is essential. In fact, careful questioning is of the greatest value in diagnosis and no where more so than in establishing the diagnosis of gall bladder disease. History taking, auscultation, and percussion since the advent of

*Address before Chicago Medical Society, Jan. 20, 1926.

the laboratory is gradually becoming a lost art. If in doubt read Skoda's book on percussion and auscultation. In this particular field the history and physical examination is just as important as it was before Roentgen's discovery. Any recurrent epigastric discomfort associated with the presence or absence of food in the stomach is probably of gastric origin. It must be born in mind, however, that it may be secondary to gall bladder disease and not a primary gastric affair. This thought is strengthened if after diet and alkalization the pain still recurs.

Palpation to determine localized tenderness made especially immediately after the acute pain subsides may supply valuable evidence. The degree of resistance and tenderness on the two sides should be compared. The so-called Murphy method of placing the second joint of the flexed finger over the gall bladder region and then striking the knuckle with the other hand is as barbarous as it is useless. Gently increasing the pressure is the desirable method. Definite localized tenderness beneath the right costal arch in the parasternal line is suggestive, not conclusive, evidence of gall bladder involvement. It is surprising the number of individuals who in the course of physical examination will show slightly more tenderness on the right side. It is scarcely probable that such localized tenderness is always indicative of gall bladder trouble. Ability to palpate a mass in this region is more suggestive, but is after all a rare finding in this trouble.

A typical location of the pain in biliary colic is interesting. During the past two years we have observed a few cases where the pain was referred to the midsternal region radiating laterally over the chest. It is not like an anginal pain and does not radiate down the arm. Its duration is longer and the pain on the whole more intense than an angina pectoris. There may be complete absence of localized hepatic tenderness. In one such patient, after careful history, physical examination, and x-ray, we were still unable to make a diagnosis. A subsequent attack with jaundice gave the clue and operation revealed a cholelithiasis. Rolleston states that a stone in the cystic duct may cause the pain to radiate downward toward the appendiceal region. I do not recall any radiation of this character. Attempts to predict the site of the calculus from the character of the pain is to say the least,

highly speculative. He is a daring diagnostician who will boldly predict the nature of the pathology that will be found at operation. In speaking of atypical pain the possibility of transposed viscera should be born in mind. Several years ago the writer saw such a case, where following a previous attack of pain a surgeon had made an exploratory incision downward from the left costal arch. The patient related that the surgeon told her she had the largest spleen he had ever seen and that he tried to remove it but found it impossible.

The diagnostic difficulties are much less in that type of gall bladder disease characterized by severe paroxysms of pain than it is in the milder types without severe pain. Here gastric symptoms often predominate with at most moderate recurrent increase discomfort, difficult to distinguish from the digestive pains. This type of case tests the ingenuity of the internist and even after exhausting all means at his command, he may still be undecided between duodenal ulcer and gall bladder disease. The symptomology in this type is extremely variable and hence the difficulty in diagnosis. The gastric disturbance may be an indefinite heaviness with belching after meals, or distress may occur one-half to one hour after meals, thus resembling peptic ulcer. In my experience the pain rarely appears on an empty stomach as is frequently noted in duodenal ulcer. The early morning pain so characteristic of ulcer I have never observed. Another point not always present is the long periods, of oftentimes weeks, without discomfort and then without demonstrable cause, such as indiscretion in diet, the indigestion returns, continues a few days or weeks, and then without special treatment subsides. The patient will frequently state that he believes that this distress is only slightly modified by dietary measures or alkalies. From this symptom complex there may be wide variation, but periodicity of discomfort and failure to respond to ulcer management is a rather common characteristic.

The gastric analysis rarely throws any great light on the situation. Rolleston states that HCl is usually deficient or absent, but this is far too inconstant to be a reliable guide. The occasional relief from alkalies suggests the presence at times of a hyperchlorhydria. The continued absence of blood from the stools speaks against

ulcer, but does not rule it out. The continued presence of blood, however, is strongly suggestive of ulcer or carcinoma. Local tenderness below the arch in the region of the gall bladder and duodenum does not aid in the differentiation. The history of recurrent attacks of moderately severe pain which the patient states differs from the digestive pains is highly significant, and if associated with even moderate temperature or leucocytosis, they become of still greater value. Perhaps the Van Den Bergh test for bile may show evidence of icterus and if so, gall bladder disease becomes highly suggestive. The roentgenologists on many of these cases report a deformity of the duodenum, due either to ulcer or an adherent gall bladder—information which is of only moderate value. Occasionally the concave character of this deformity will enable them to say that gall bladder disease is highly probable. I have never been able to enthuse on a report that the x-ray shows a distended gall bladder. In two cases where such a report was accepted as evidence of pathology the gall bladder at operation was not pathological and it was later shown that the patient's trouble was a spastic colitis. It is possible that this enlargement is physiological as one of the functions of the gall bladder is the concentration of bile. Such a distended gall bladder is rather widely accepted as evidence of a pathological condition and time may show that this is true. Unless the history and physical examination is strongly suggestive of trouble, the mere presence of a distended gall bladder as shown by the x-ray is not, I believe, adequate evidence upon which to recommend surgical measures. It is in this type of case that cholecystography may be of value. It should be borne in mind, however, that the roentgenologist only detects pathology. He is not in a position to determine whether this pathology is responsible for the signs and symptoms present. He does not diagnose disease. It is the function of the internist to consider his findings and determine whether they are associated with the patient's complaint. It is essential to differentiate between innocuous pathology and troublesome or potentially dangerous pathology. In this form of gall bladder disease with indigestion, prolonged observation may be necessary before we can finally rule out a primary gastric disturbance.

We may briefly review some other diseases

capable of giving signs or symptoms of biliary trouble. In my experience one of the most important is spastic colitis. In patients operated on for gall bladder disease without relief, the most frequent cause of the pain has been spastic colitis. One of the factors in this condition is nervousness, another, the taking of drug laxatives. The pain complained of by some of these individuals is apparently intense and if they can persuade the physician to give them morphine, they will demand the same treatment in the next seizure. There are certain symptoms highly suggestive of colitis—especially rumbling and gurgling in the intestines. During an unusually severe cramp the patient may notice a gurgling followed by relief of pain. Mucus in the stools is significant. The attacks frequently follow a nervous upset or the taking of laxatives. The abdominal discomfort is not always in the same part of the abdomen. On one occasion it may be in the right upper quadrant and another time below the navel. The x-ray may be of value, although a negative x-ray is of little value as the muscle spasm is not continuous. By withdrawing drug laxatives and giving a suitable diet with the addition of mineral oil and moral support and encouragement we can frequently determine whether the discomfort arises from the colon.

Another source of error is an intercostal neuritis due to osteo-arthritis of the spine. If the painful nerve lies along the lower right costal arch, the discomfort, especially in a nervous individual who exaggerates symptoms, may be and has been mistaken for a gall bladder disease. Such patients may be awakened in the night with an excruciating pain which they frequently refer to as being in the right hypochondrium. Physical examination reveals the tenderness over the arch and not below it. By changing their position in bed, they frequently experience relief. Long automobile rides or jolting may also precipitate an attack. Within the past two years I have seen two patients operated on for gall bladder disease where the pain was due to a neuritis of this character.

Differentiation from an appendicitis has not seemed to me to be especially difficult. Since reading a recent article by Dr. Sidney Lange (*J. A. M. A.* 1925, L. X. X. V., 2021), on the varying location of the gall bladder as shown by cholecystography, we can easily understand how the point of tenderness might be confused

with a high appendix. The radiation of the pain, however, is different and the suddenness of onset and intensity of the discomfort differs from that observed, with rare exceptions, in appendicitis. Perhaps this differentiation should not be dismissed so lightly as there can be exceptions to every rule.

A Dietel's crisis I have never seen, if we exclude attacks of renal colic due to calculus or infection of the kidney. In a kidney involvement there is practically always tenderness in the loin, and if rigidity is not too marked, at least the lower pole of the kidney can be palpated.

Syphilis of the liver has already been discussed.

Acute pancreatitis may resemble very closely biliary colic. As a rule the pain is more in the epigastrium and may radiate directly through to the spine. Tenderness and resistance is usually near the median line. Biliary pain is usually of rather brief duration while in pancreatitis it continues until relieved by surgery.

That a lower right lobe central pneumonia may closely simulate gall bladder disease I once learned to my chagrin. In this particular case when the patient was seen in consultation on the third day, nothing could be found in the lung. There was definite tenderness over the gall bladder region and well marked jaundice and a high temperature. There was no history of previous attacks. A surgeon was called who advised operation. The gall bladder was normal. A careful examination of the lung was again negative and not until twenty-four hours before the crisis were we able to definitely diagnose pneumonia. The x-ray is of great assistance in diagnosing central pneumonia, and it is amazing to see how large an area of infiltration may be present without physical signs.

In discussing diagnosis of gall bladder disease reference might be made to the Lyon-Meltzer method of obtaining bile. My experience is nihil due to lack of faith in the value of this method of diagnosis. In this I may be in error.

The medical treatment of gall bladder disease is of interest chiefly from an historical standpoint. We read considerable about preventive measures, and yet have great difficulty in becoming interested in their application. They fail to appeal. Stasis is, no doubt, an important factor in gall bladder disease. How to prevent

stasis is, however, quite another problem and must be left to the therapeutic optimist, especially as ladies no longer wear corsets. A low cholesterol diet has been advocated as a preventive measure. To those who have faith this may be tried, removing fats, yolk of egg, sweetbreads, and brain from the diet. Removal of foci of infection with the object of preventing biliary infection is still a hypothesis and will remain so until more rational animal experimentation would lead us to suspect such a possibility and properly controlled series of patients confirm this surmise.

Active medical treatment includes certain watering places, duodenal drainage, biliary antiseptics, cholagogues, and diet. Many people believe they are temporarily benefited by a Carlsbad cure. If this is true, it would be necessary to determine whether this was due to the diet, exercise, or drinking of the waters. To those who desire a trip abroad and possibly postpone, but not escape surgery, this may be tried. The value of duodenal drainage is still a mooted question. When we consider the nature of the pathology, it does not appear rational.

Hexamethylenamin was at one time thought to be a biliary antiseptic. When Dr. Crowe did his work with this drug, there was no differential chemical test between hexamin and formalin. What he found in the gall bladder was hexamin and not formalin. Formalin is only split off in an acid medium, and, outside the stomach, the urine is the only fluid in the body capable of bringing about this reaction. Mercurochrome is the most recently heralded biliary antiseptic. It is given intravenously and causes a very severe reaction, chill, and high fever. It is not free from danger. A. V. St. George (J. A. M. A. 1925, L. X. X. V, 2005), has recently reported autopsy findings on a series of five cases treated with mercurochrome. Intense nephritis and intestinal lesions characteristic of mercury poisoning were found and it was the opinion of the pathologist that death was due to the mercurochrome. There is, furthermore, considerable difference of opinion in regard to its germicidal action in the gall bladder. A. T. Todd (Lancet. 1925, ii, 1017) has recently reported that the acidity of the solution determines in a large degree its germicidal activity. At acidity near to the neutral point, it has very little power. In higher acidities it is active. At the acidity

of the blood it was only slightly germicidal. When excreted by the kidney, it again becomes highly germicidal in the acid urine. Apparently in the alkaline bile, it has at most only moderate germicidal power. If time shows that it is a valuable biliary antiseptic, the dangers attendant upon its use would prevent its general adoption.

It was formerly thought that certain purgatives had a cholagogue action, increasing the flow of bile. This view has been shown to be fallacious. Salicylates at one time were thought to facilitate the flow of bile. This also has been shown to be without foundation. The only drug capable of increasing the flow of bile is ox bile, and ox bile may be used for this purpose. The nature of the pathology of the diseased gall holds forth little hope that increasing the flow of bile would be of much value. Beginning two to three hours after a meal there is an outpouring of bile into the duodenum. This can be modified somewhat by the character of the diet. Nitrogenous foods, it is reported, stimulate a greater flow than fats or carbohydrates. In order to establish more frequent flushing five meals a day instead of the usual three can be recommended.

As the internist has little to offer in the way of therapy in gall bladder disease, having made the diagnosis and decided that active treatment is indicated, he should refer the patient to the surgeon.

SOME PHASES OF BILIARY SURGERY*

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In the present era of epoch making discoveries and advances in our knowledge of human physicochemical processes and new chemical laboratory tests, one has difficulty in keeping abreast of the times and evaluating these various tests for use in his own problems. The tendency of the more recent medical graduates to become clerks in collection of the results of various laboratory procedures and of the older men to depend too much on their senses and experience is unfortunate and it is to be hoped that an ideal which calls for the use of both laboratory investigation and keen judgment and observation may be attained.

It is with this idea in mind that I have brought together in part of this paper the relations of certain physiological processes of the biliary system to some of the present day methods of investigation, that they may be understood and made use of by us all, when indicated.

The liver, one of the largest organs in the body, probably has many functions which we have not yet discovered. Some of the generally accepted functions follow: It secretes bile at the approximate rate of an ounce an hour. It stores carbohydrates in the form of glycogen which it releases in quantities sufficient to keep the amount of blood sugar between certain normal percentages. It takes part in the protein metabolism in the development of aminoacids and urea. Fats are also handled in the liver and the formation of cholesterol is part of this process. It absorbs and renders harmless toxic substances from the intestinal tract, the spleen and the general circulation.

The gall bladder, which receives but a small portion of the total quantity of bile secreted, concentrates the bile and secretes mucus. There are many other more or less complicated functions of the gall bladder which are not definitely proven. Removal of gall bladder is always followed by dilatation of the biliary tree except when the sphincter of Oddi is not competent.

The formation of the bile pigment bilirubin, which is the constituent of the bile which gives it its color, takes place in the liver, bone marrow and spleen, all important parts of the reticulo-endothelial system. The worn-out red blood cells are destroyed and the hemoglobin is broken down into its constituents of which bilirubin is one. This bilirubin is then excreted by the liver as the pigment portion of the bile. Jaundice is a condition in which the blood contains much more than the normal amount of this pigment bilirubin with a resulting pigment deposit in the various tissues of the body. There are three types of jaundice, 1. hemolytic, such as in hemolytic icterus; 2. obstructive, as in common duct obstruction, and 3. inability of the liver parenchyma to secrete and excrete, due to acute infections, certain poisons and pathological impairment of liver cells. Severe jaundice affects all the tissues of the body and one of the most important of these is the kidney. The kidneys

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early give evidence of the effect of jaundice by the presence of albumin in the urine, an elevated blood urea and a lowered phenolsulphonphthalein test. The physiological acting calcium content of the blood, so important in the process of blood coagulation, is lowered due to the combination of the bile salts with the circulating calcium.

The clinical tests I wish to consider are the levulose, the van den Bergh, the Fouchet, the Rosenthal, the Munlengracht, the glycuronic acid, blood urea, blood cholesterol and the recent method of cholecystography developed by Graham and Cole. Before going on I wish to digress in order to sketch the development of the dyes used in the Rosenthal and Graham and Cole tests.

Roundtree and Abel while studying phenolphthalein noted that it was excreted in the urine and bile. When a sulphone radical SO^2 was substituted for the CO it was found that this new substance phenolsulphonphthalein, which is theoretically the same size as the urea molecule, was excreted quantitatively in the urine, resulting in the now popular kidney function test. Later they discovered that by replacing four hydrogen atoms in the phenolphthalein group by chlorine, the new compound phenoltetrachlorophthalein was excreted quantitatively in the bile. The present Rosenthal test for liver function developed from this. Graham and Cole found that when bromine or iodine were substituted for chlorine, the resultant compounds were also excreted in the bile and that this bile was opaque in the x-ray, thus laying the foundation for the present methods of cholecystography. And now Graham, Cole, Copper and Moore report a compound, sodium phenoltetra-iodophthalein which offers the possibility of being able to do a kidney function test, a liver function test like the Rosenthal and cholecystography by the administration of a single substance.

The levulose test is based on the liver function of carbohydrate storage and the maintenance of the blood sugar between one and two-tenths of one per cent. This test has not proved of practical value and is made unreliable in the cases in which certain pancreatic pathology exists.

The amount of the circulating bile pigment bilirubin which is dependent upon the rate of red blood cell destruction and the rate of liver excretion, may be estimated quantitatively by

two methods and qualitatively by one. The bile index test of Munlengracht is quantitative only and does not indicate whether hyperbilirubinemia is due to biliary obstruction and liver insufficiency or to hemolytic processes. While this test may be used, it is not as satisfactory as the van den Bergh. The van den Bergh estimates the amount of bilirubin circulating in the blood and also indicates whether a hyperbilirubinemia is due to hemolytic conditions or to conditions of liver damage and liver obstruction. Ehrlich's diazo reagent is used in this test and the reaction is classified direct or indirect according to whether the color appears without or with the addition of alcohol. A direct reaction indicates biliary obstruction or pathology and an indirect reaction indicates a hemolytic condition if the amount is increased above the normal. The normal amount of serum bilirubin has been estimated between .5 mg. to 2.0 mg. per 100 c.c.

In obstructive cases the amount of serum bilirubin may rise as high as 30 mg. per 100 c.c. Now the question presents itself as to what will the reading of the test be in cases in which there is both direct and an indirect reaction. The result will be that the total amount of serum bilirubin will be read as an indirect reaction with no means of determining how much is due to hemolysis and how much is due to liver damage or obstruction. Now what is the value of this test? As an aid in differential diagnosis it serves to differentiate between conditions which result in increased hemolysis such as hemolytic icterus, pernicious anemia, etc., on the one hand and the group of biliary pathological conditions such as obstruction, and liver parenchyma damage of various kinds, on the other. As an aid to the surgical indications in jaundiced conditions it has proved of the most value. By noting the daily amount of serum bilirubin one can feel that an increasing amount of pigment indicates an increasing surgical risk and vice versa. Is it of any value in the diagnosis of non-jaundiced chronic gall bladder conditions? No, it is not. It will show an increased reading before coloring of the sclera and skin appears in cases of obstruction, however.

It has been found that in cases with prolonged obstructive jaundice in which considerable parenchymatous liver damage has undoubtedly taken place, that relief of the obstruction is followed by an immediate improvement in both

the van den Bergh and Rosenthal test. After this initial improvement, the Rosenthal test takes a long time to gradually return to normal, whereas the serum bilirubin continues rapidly to normal. This observation has been interpreted to indicate that although the liver is able to keep the pigment normal it still has not been restored to its full secretory ability owing to a slowly clearing up parenchymatous damage. It is of interest to know that it is estimated that the liver carries a reserve functional ability of about 70 per cent. In hemolytic conditions with a large amount of serum bilirubin of an indirect reaction, a normal Rosenthal test is corroborative evidence of hemolysis with little or no liver damage. Another use for the van den Bergh is its value in indicating the time of removal of common duct drainage. If the test is above normal it can be interpreted as indicating that it is too early to remove drainage.

The Rosenthal test which has been developed by estimating the amount of the dye in circulation one-half hour after intravenous injection can be used alone or in conjunction with the van den Bergh as previously described. In obstructive jaundice cases the retained dye is great whereas in the hemolytic jaundice cases, the retained dye is practically normal in amount. The greatest use of this test is in the cases in which liver disease is suspected but with no jaundice, in such cases as malignancy, cirrhosis and myocardial insufficiency. In cases of total obstruction it is of no value as a daily indicator of liver sufficiency, such as the van den Bergh is.

The Fouchet test is an oxidation test which is read positive or negative according to presence or absence of the development of a green color. A positive reaction was supposed to indicate cholecystitis and a negative the absence of cholecystitis. If this test could only have been accurate and reliable it would have solved completely one of our greatest problems of gall bladder diagnosis of today. This was not to be, however, for such investigators as Speik, Liljedahl, Falk and Garvin have found it too unreliable to be of any diagnostic aid.

The glycuronic acid test is supposedly an indicator of the ability of the liver to detoxicate the blood. It is of interest scientifically but is not of sufficient practical value to be used.

The estimation of the amount of urea in the

blood is of value in checking up the renal function which may be early diminished in severe jaundice. Urea has been proven to be formed in the liver as an end result of protein metabolism. The amount of urea present is not an accurate indicator of the liver sufficiency but is of value in estimation of the surgical risk, because the renal function is of prime importance in all jaundiced cases.

The determination of the cholesterol content of the blood is also of scientific interest. Many men accept the formation of some cholesterol stones as a metabolic process not necessarily associated or dependent upon infection. Practically this estimation is of value only in the handling of cases from a prophylactic or dietary standpoint.

A most recent and valuable aid in diagnosis presents itself in the form of the now popular method of cholecystography. The technique varies according to the technician but the fundamental principle is the same in all. The first question which presents itself in the widespread use of any diagnostic procedure is the danger of its use. There are varying degrees of reactions to the administration of the dyes but none of sufficient severity to contraindicate its use except in extremely weak patients. I know of only one fatality following the use of the dye and that was not particularly conclusive in proving that the dye was the sole factor. Summers of Omaha at the last Western Surgical Meeting reported the case. A patient who had had an intravenous iodine salt test was operated upon six days later and died three days postoperatively of thrombosis of the axillary and femoral arteries. Dr. Summers felt that mitral thrombi had been formed from the dye and that the operation might have been indirectly responsible for this dislodgment and metastasis. On the strength of this experience he advises waiting two weeks before surgery in intravenous cases. On the other hand, Graham and others have reported thousands of cases with no fatality traceable to the use of the dye. It would seem that this one case should hardly contraindicate the use of this test whenever indicated.

The use of the bromide salt by mouth has resulted in fewer reactions than the iodine salt, according to Carman's experience. Graham uses the iodine salt both in the oral and intravenous methods. Carman uses the oral method rou-

tinely and follows up with the intravenous method in unsatisfactory cases. Graham claims an accuracy of 95% in his use of the test. Carman's experience is not quite so satisfactory. The cases in which stones are demonstrated are the only cases in which the test may be considered 100% accurate. In other cases in which the diagnosis has been gall bladder disease operation has resulted in the finding of normal gall bladders in a considerable number of cases. Again, in cases reported negative, operation has demonstrated well advanced gall bladder pathology. At the present time, then, I think we have to conclude that the demonstration of stones is the only positive phase of the test. The other reports have to be applied in the same way in which we apply so many diagnostic tests, that is, on a percentage probability basis. The definite demonstration of stones is of the most value in those cases which do not have a definite syndrome and on whom we would not ordinarily advise or urge surgery, even as an exploratory procedure. This applies particularly to the large group of cases in which the nervous status of the patient may play a large part. The test is obviously not indicated in obstructive cases. Should this test be used in all gall bladder cases? It would seem that in many clear cut clinical gall bladder cases that it would not be necessary, leaving its field of application to those cases in which we can not make a reasonably satisfactory clinical diagnosis. For those who wish it, however, I can see no reason for advising against its routine use. It must be admitted that it is without a doubt the biggest diagnostic aid so far developed in the diagnosis of the general run of gall bladder cases and particularly so in the cases with demonstrable lithiasis.

Besides the consideration of these clinical diagnostic procedures the urgency of early surgical interference in gall bladder pathology and lithiasis, the aids in management of jaundiced cases and the recent application of medicinal therapeutics in certain cases of cirrhosis with ascites, appeal as practical questions of the hour.

Surgical attack is always indicated in lithiasis cases unless the patient is too bad a risk to stand for any surgical procedure, however slight. In the cases of cholecystitis without stones there are two questions to be answered:

1. How long should we wait before urging surgery and what preliminary, palliative and in

some cases curative measures are to be instituted?

2. What are the hazards of waiting?

Probably no two would agree on the answer to the first question. In the average case of chronic cholecystitis I feel that a trial of a year's management consisting of dietary measures, removal of infectious foci, the administration of salines and other chologogic medicines and the non-surgical duodenal drainage of the biliary tract by those who practice it are indicated. An acute febrile attack with jaundice or signs of local peritonitis would call for emergency procedures if progressive and later interval surgery if it is a self-limited attack.

After a year's period of management along these lines without cure or improvement, I feel that surgical interference is most certainly indicated, mainly because of the following hazards of waiting:

First the important hazard is the probability of the development of pancreatitis, hepatitis and biliary cirrhosis, which so frequently become part of the pathological picture in gall bladder infections. I do not believe these things can be emphasized too strongly, because first we are living in an age of developing prophylaxis and secondly because it is the persistence of these very conditions of pancreatitis, hepatitis and biliary infection, after gall bladder surgery, that brings popular discredit and dissatisfaction on surgical removal of the infected gall bladders.

Next in importance I would mention the possibility, though comparatively slight, of the development of an acute condition with peritonitis which calls for emergency surgery.

Besides these reasons I wish to mention the relationship of cholecystitis to a few pathological conditions. The relationship of ulcer development is not clear but it does occur in a considerable number of cases. The possibility of the development of traction diverticula of the duodenum, biliary fistula, and obstruction of the stomach, as direct result of extension of the chronic inflammatory process in the gall bladder is always at hand. The possibility of the development of arthritis, iritis, and the early development of vascular sclerotic changes anywhere as a result of the role the infected gall bladder may play as a focus of infection, is also always at hand.

The relationship of cholecystitis to diabetes is

not definite, but whether the cholecystitis acts as the etiological factor in the development of diabetes or not, the fact remains that marked improvement and in some cases cure of diabetes is accomplished in a large percentage of the cases of coexisting diabetes and cholecystitis in which cholecystectomy has been performed.

Such conditions as myocarditis with, in some cases, well developed angina pectoris are definitely benefited by removal of an infected gall bladder in a large enough number of cases to urge cholecystectomy in selected cases.

The development of the above conditions I feel offers a very persuasive and imperative argument for the early eradication of persisting gall bladder infection.

Jaundice, although always a source of increased surgical risk, has lost some of its hazards through the development of the aids in its management which follow:

1. The ability to better estimate the degree of hepatic sufficiency by means of the van den Bergh, Rosenthal and blood chemistry tests.

2. The preoperative administration of calcium chloride intravenously to replace the calcium which has entered into chemical combination with the increased circulating bile salts, has greatly reduced the occurrence of uncontrollable hemorrhage, which used to be the cause of death in nearly fifty per cent of the cases in which operation preceded death. Transfusion in cases in which satisfactory reduction in the coagulation time is not attained by the calcium therapy. Transfusions also form our last bulwark of defense in the postoperative hemorrhages which sometimes resist all other methods of hemostasis.

3. The use of glucose preoperatively and postoperatively in cases with liver insufficiency.

4. The different methods of preserving body heat during operation. The development of the use of the above methods in the handling of badly jaundiced cases has made a brilliant chapter in the progress of biliary surgery.

The use of novasurol and ammonium chloride in cases of cirrhosis of the liver with ascites is another new development in the management of these conditions. In some cases a tremendous amount of ascitic fluid has been removed by this therapy and an individual otherwise doomed to chronic invalidism or possibly fatal surgery has been restored to active productive existence.

The method of administration of this mercury compound is either intravenously or intramuscularly. The drug comes in ampoules of a 10% solution and $\frac{3}{4}$ c.c. is used as a trial dose to test out the patient's reaction to it. If it is well tolerated, doses of 1 to 2 c.c. are given at intervals of from three to four days. Along with this, a lowered fluid and salt intake is maintained and the administration of ammonium chloride in capsules to the amount of 10 gms. daily has been shown to be of help in some cases. This method of treatment has been so spectacular in some cases that it at least deserves a trial before we fall back on such surgical procedures as the Talma Morrison and splenectomy as they are indicated.

SUMMARY

1. The van den Bergh test is a very valuable indicator of a jaundiced individual's status as a surgical risk. It is also of much help, either alone or in conjunction with the Rosenthal test, in the differential diagnosis of jaundice due to biliary or hemolytic pathology.

2. The Rosenthal test is of most value as an indicator of the status of hepatic parenchyma sufficiency and also is of value in conjunction with the van den Bergh test as just mentioned.

3. Cholecystography is 100% accurate when it demonstrates stones. Its greatest value is in cases of gall bladder disease plus stones, when a positive clinical diagnosis cannot otherwise be made. Its use is contraindicated in obstructive jaundiced cases.

4. "Gall stones" is a definite surgical indication at any time except when surgery of any magnitude would be obviously fatal.

5. Surgical interference is indicated in cases of cholecystitis which do not respond to non-surgical management over a period of a year.

6. The use of the van den Bergh and Rosenthal tests, the calcium therapy, transfusions, glucose administration, and different technical improvements have greatly reduced the operative mortality in surgical procedures in jaundiced patients.

7. The use of novasurol and ammonium chloride in certain cases of cirrhosis with ascites opens up the possibility of medical management and control in many of these otherwise hazardous and hopeless cases.

CHOLECYSTITIS WITH A CONSIDERATION OF SOME OF THE ASSOCIATED PROBLEMS*

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Some years ago it was assumed that all of the essential facts regarding surgery of the gall bladder had been settled and all that remained was to develop the artistic performance of the operation. Recent studies on the physiology of the liver and the efforts to perfect a method of estimating hepatic function and to determine whether the liver is simply an excretory organ or takes part in secretion as well, have brought renewed interest to all of the surgical problems associated with this organ. Although the liver performs an important function, it has been shown that an animal can survive its removal, and that, contrary to expectation, the animal gradually becomes jaundiced after hepatectomy. It has also been shown experimentally that the removal of the greater portion of the organ apparently does not produce any change in the results of the tests for hepatic function. If a portion of the liver is removed a very decided cellular hypertrophy of the remaining portion occurs within a few days. If a rather small piece of hepatic tissue is separated from the body of the organ and allowed to lie free in the peritoneal cavity, the animal will die in a few days; the exact cause for this has not been explained. It is found at necropsy that the fragment has practically disappeared and that the peritoneum is very red and inflamed, a condition similar to that seen in some cases of pancreatitis. This experimental reaction may explain what has been called liver shock and certain symptoms that occasionally follow operations on the gall bladder in which the liver is unavoidably injured. This may mean that if a piece of liver is almost separated during an operation, it probably will be best to remove it rather than attempt to save it by suturing it back in place.

Studies of the intrahepatic, vascular and biliary trees recently made by McIndoe and Counsellor, have provided the best method so far for graphically depicting the normal and abnormal conditions which may occur in the liver. They say that the method of investigating sclerosing and obstructive processes by colloidin

injections and corrosion is particularly applicable to the liver. This same plan of study has been carried out on the kidney by Hinman and Brown, and on the thyroid by Terry and Delamere. It has also been used by Huber and a number of others. The particular method used by McIndoe and Counsellor was devised by Morrison, Hinman and Brown, with some slight modification.

The gall bladder undoubtedly has some definite functions, but just what they are has not been determined. Certain animals have gall bladders while others do not. In some species, one animal may have a gall bladder while another may not, and yet they live in much the same environment and on the same foods. When the gall bladder is wanting the common duct is usually larger and shorter, and there is usually no evidence of sphincter activity at the termination of the duct so that the bile flows continuously from the liver to the intestines. Extensive studies have been carried out to discover the structure that carries on the function of the missing gall bladder. It has been suggested that the parietal sacculi of the intrahepatic ducts may become enlarged and filled out and so take the place of the gall bladder. It has also been suggested that when the gall bladder is removed at operation or destroyed by disease, these inactive embryonic structures connected with the intrahepatic ducts open up and become active, taking over the function of the gall bladder. In studies of the effects of removal of the gall bladder which were made a number of years ago, and recently by a newer method, by McIndoe and Counsellor, very little difference if any could be found in these sacculi before and after the removal of the gall bladder. In partial or complete obstruction, however, definite enlargement could be detected practically proportional to the amount of dilatation of the ducts themselves.

The gallbladder is too important a structure to be sacrificed needlessly and yet there are no evidences that its removal or destruction has any untoward effect. We have shown experimentally and statistically that an animal or a human being will probably live just as long and just as comfortably without a gall bladder as with one. Some time ago we called attention to the changes that occur when the gall bladder is removed, dilatation of the bile ducts and overthrow of the sphincter activity at the ampulla, with the

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resultant loss of pressure in the bile flow. This condition exists normally in animals without a gall bladder. From the work of Rous and McMaster we know of one definite change in the bile that results from its stay in the gall bladder, that is, it becomes more concentrated. While, as suggested, the gall bladder may be a storage organ or a tension bulb, these functions have not been proved. Higgins has found that in the rat which possesses no gall bladder, a plexus of fine biliary channels is applied to the radicals of the portal vein. Since no such arrangement is found in the mouse, which has a gall bladder, he sees a possibility of the plexus being a compensating mechanism analogous to the gall bladder. While nothing has been proved by this study, nevertheless, so far as I know, this is the first time that attention has been called to the existence of such a plexus, and it is hoped that further study may lead a considerable way towards solving the problems of function of the gall bladder.

I believe that we are called upon to operate for cholecystitis or an allied condition more often than for any other abdominal disease. Not only is disease of the gall bladder recognized more often than formerly, but I believe it occurs more frequently than it did years ago. The etiology of cholecystitis has been studied from practically every angle and many different ideas have been brought forth, but the exact cause has been difficult to determine. It was quite natural to assume that the most common cause of cholecystitis was infection and it is likely that infection does play an important part. In some of the earlier reports of the bacteriologic study of gall bladder disease, bacteria were found in higher percentage than we are able to obtain at the present time. It is possible that we are operating in the presence of less inflammation and in the interval more often than formerly, but again it must be said that in some of the cases in which the gall bladder appears to be extensively diseased, no organisms are found in the tissues, in the bile or stones.

A study of 100 cases of cholecystitis has just been completed. After surgical removal, the gall bladder placed in a sterile dish and covered with sterile gauze, was immediately taken to the laboratory for culture. In no instance was the specimen examined by the bacteriologist later than five minutes after its removal from the

body. Specimens from the wall of the gall bladder, from the bile, and from the stones which were present in 50 per cent of the cases, were examined in each case. Several different media were inoculated in each instance and examined at stated intervals. In spite of the utmost care, contamination undoubtedly occurred at times. In most instances appendectomy had preceded the cholecystectomy and from this source the gall bladder was inevitably soiled at times. This probably accounts for much of the contamination even though the specimens were washed one or more times in sterile solution of sodium chlorid. The examination of the tissue of the wall of the gall bladder gave a positive result in twenty-nine cases. This is subject to error, however, as three specimens showed two or more types of organisms. Only five of twenty-two specimens of "strawberry gall bladder" gave positive cultures. In 7 per cent of the 100 cases the bile was bacteriologically positive; in three of these streptococci were found and in three a spore-bearing bacillus. Gall stones were present in fifty of the 100 cases; in only five instances were we able to obtain a positive culture from the stones, and one of these might have been due to contamination. We were unable to isolate *Bacillus typhi* or *Bacillus paratyphi*, although in 21 per cent of the cases there was an antecedent history of typhoid fever. . Mentzer has pointed out that thick dark green bile as found at necropsy is not necessarily indicative of infection of the gall bladder, and there are several instances in this series that support that contention. We found thick, dark colored bile in 16 instances: 6 of these were in cases of chronic cholecystitis, in 4 of which culture of the bile and of the gall bladder wall was negative. Likewise in 8 instances of gall stones, culture of the bile, gall bladder wall and stones was negative in seven. In one instance of "cholesterosis" in which thick, dark bile was found, no growth could be obtained from the bile or the contents of the gall bladder.

During the study of the effect of Dakin's solution administered intravenously, Mann showed that the tissues of the gall bladder were the first to be changed, and that a definite non-bacterial cholecystitis could invariably be produced by the intravenous administration of this solution. Under these conditions the gall bladder became very much reddened and tense, and there was an

extravasation of blood from the capillaries into the tissues. This occurred a short time after the solution had been injected, and when no change could be demonstrated in any of the other tissues. Churchman and his associates, working in the Research Laboratory of Bellevue Hospital, New York, on failure to find organisms in certain grossly inflamed gall bladders removed at operation, came to the conclusion that the pathologic condition is due to changes in the blood vessels and causes other than bacterial invasion. Sweet and Mentzer believe that the presence of lipid deposits in the gall bladder in association with the condition known as "strawberry gall bladder," is evidence of the role of the gall bladder in the metabolism of fat, and that these lipoids are not the result of infection. While it is very likely that several factors enter into the cause of cholecystitis, nevertheless, it is more evident than formerly that some of these diseases occur independently of bacterial invasion. It is entirely possible that in some instances the cause of the condition may be chemical alteration of the blood.

The clinical manifestations are usually definite. The principal symptom is pain, usually severe, of sudden onset, radiating characteristically to the back and the shoulders. When this symptom is present the diagnosis is almost certain, but much uncertainty attends an attempt to diagnose chronic cholecystitis in the absence of colicky pain. Soreness, tenderness, constant dull pain, dyspepsia particularly evidenced by belching and flatus, and many remote symptoms, may result from chronic inflammation of the gall bladder. Since it has been shown many times that the infected gall bladder may be a focus for systemic infection resulting in rheumatism and cardiovascular disease, it is important that chronic cholecystitis should be recognized. Willius has shown that in 55 per cent of the cases of cardiovascular disease with which cholecystitis is associated, definite benefit and modification of the cardiac symptoms will follow removal of the diseased gall bladder. A surgeon is in an embarrassing situation when he finds on opening the abdomen that the gall bladder has a normal appearance, though he had every reason to believe there would be definite evidence of disease in the organ. Undoubtedly this is at times the result of a mistaken diagnosis. In others, however, unrecognizable disease exists,

which will be relieved by removal of the gall bladder. The cause of the symptoms may possibly lie in the liver or the pancreas or in some functional disturbance in the biliary tract. Under normal conditions when the bile and gall bladder wall are normal, the gall bladder has a blue appearance. Sometimes a deposit of fat under the peritoneal coat gives it a much lighter color but this is not likely to be significant of disease. Inflammatory adhesions can usually be distinguished from the peritoneal fold extending from the gall bladder to the duodenum. In studying the conditions of inflammation we have formerly given a good deal of attention to the tension of the gall bladder and have thought that a tense, noncompressible gall bladder was indicative of cholecystitis. This assumption is undoubtedly correct to a certain degree, but nevertheless we know from recent investigations by Boyden of Harvard that the gall bladder becomes very tense at certain times according to the amount and kind of food that has been taken. Boyden has shown by experiments on animals that a regular cycle takes place and that after a period of starvation the gall bladder is always tense. It is probable that the tenseness that we frequently find and have been inclined to attribute to inflammation, may be the result of the starvation that usually occurs before operations on the gall bladder.

I believe that we have recently demonstrated that a diagnosis of cholecystic disease can be made on the clinical manifestations alone. This is a dangerous attitude to take, as a general rule, because most operative procedures that have no sounder justification have failed. In the last few years I have been interested in studies of two groups of cases to determine the end results of operations for chronic cholecystitis without stones. The classification of the grade of cholecystitis is that made by the pathologists and all specimens were diagnosed and graded immediately after operation. The case histories have been reviewed and followed up by questionnaires. One of these series consists of a group of 100 cases and the second is a group of 300 cases. I learned from this study that if a patient has a typical history of cholecystic disease with characteristic colicky pain, he would be relieved of his symptoms by removal of the gall bladder whether or not it showed recognizable disease. This study furthermore seemed to indicate that

in cases of cholecystitis, grade 1, in which the clinical manifestations were definite but the disease unrecognizable at the operating table, cholecystectomy was followed by cure in a higher number of instances than in the cases in which the disease of the gall bladder was graded 2, 3 or 4. The study furthermore showed that if the patient's symptoms were of the chronic dyspeptic type or if the predominant features were soreness, tenderness, and aching in the side, the likelihood of cholecystectomy promoting cure was not great. It has formerly been thought that in a large proportion of the cases symptoms of dyspepsia were the result of cholecystic disease. While this is undoubtedly true, nevertheless, the removal of the gall bladder for chronic dyspepsia gives a small proportion of satisfactory results. It is greatly to be hoped that diagnostic accuracy will be enhanced by the use of the Graham-Cole method of roentgenologic examination. Until the method was evolved very little help was obtained from the roentgen ray. Certain roentgenologists and others have expressed the opinion that they will be able to recognize the presence of disease in the gall bladder more accurately by this method than the surgeon can by exploratory operation. While this places a good deal of responsibility on the roentgenologist, the very fact that many patients have been cured of their symptoms by removal of a fairly normal looking gall bladder affords some justification for this opinion. There is either some unrecognizable disease in the gall bladder or else its removal produces some change in the liver or pancreas, which relieves the symptoms. There are many possibilities for error in the new plan of roentgenologic examination in these cases, and the stage has not yet been reached where a diagnosis can be made by this method alone.

The important problem is the development of a plan for more accurate diagnosis of cholecystitis. The results of operation in these cases are very satisfactory as a rule and the operative risk is low. A much more serious affair exists when the disease becomes complicated with biliary cirrhosis resulting in jaundice or inflammation of the pancreas. The progress made recently in the handling of jaundiced patients can be attributed largely to the efforts of McNee who gave a more workable classification of jaundice than we formerly had, and to that of van den Bergh, Aschoff, and Mann, from whom we have

learned how to estimate the degree of jaundice and much about the physiology of the liver. It has been known for many years that calcium had certain effects upon the coagulating time of the blood in cases with jaundice. It has been used for this purpose for a long time, but it is only since Walters made a scientific study of how to use it, that a great deal of benefit has been derived from it. The knowledge of how to estimate the degree of jaundice and how to use calcium and an occasional blood transfusion in these cases, has reduced the mortality from almost a prohibitive level to one which holds a good deal of promise for patients in this serious condition. Something will eventually come from the tremendous effort that is being put forth on the study of the liver functional tests, but up to the present, surgery has not derived much practical benefit from these studies. By all odds the most important test of the patient's condition is the van den Bergh test for the amount of bilirubin in the blood serum. This shows the exact degree of jaundice; repetition of the test indicates whether the jaundice is increasing or decreasing. It thus enables us to determine how much preparation is needed and what the risk of the operation will be.

There is no abdominal operation that requires as much exposure as one on the gall bladder or gall ducts. The best exposure can be obtained by a fairly large incision which begins at the ensiform and terminates a little to the right of the umbilicus. The important feature of this incision is that it should be high with the upper end close to the ensiform. The suspensory ligament can be divided without interference and many times this should be done, as it affords not only better working space but a fixed point on the liver which enables one to lift the liver up and retract the under surface. There is no question in my mind but that it is much safer and better to perform cholecystectomy by beginning the operation at the cystic duct end of the gall bladder than by starting at the fundus. There is an occasional case in which the lower end of the gall bladder and cystic duct cannot be isolated, in which it may be better to start the dissection from above. After the gall bladder has been removed, the cystic duct and artery should be ligated and dropped back away from the surface of the liver, and, if feasible, the gall bladder fossa should be covered with peritoneum. Up

to within a few years ago it was customary to leave an abdominal drain in all of these cases whether or not there was any infection, or question as to the accuracy of the technic. I have been very much impressed with the results in cases in which closure was made without one. I made this technical change very gradually, but after having closed several hundred cases without drainage, I am convinced that in the clean case in which the cystic duct is accurately tied and oozing absolutely controlled, it is a safer and better procedure. The statistical studies I have made of our own cases would indicate or seem to prove this contention.

In cases in which jaundice is an associated condition, operation can be carried out with less risk if the abdominal wall is blocked with novocain and ethylene used as the general anesthetic with as little ether as possible. In cases of deep jaundice it is usually best not to remove the gall bladder unless it can be done with very little disturbance to the surface of the liver. If that is opened into, considerable oozing follows, and the more these cirrhotic livers are sutured the more profuse the oozing becomes. The result is that the wound has to be closed with the gall bladder fossa packed with gauze, which is a bad procedure if it is possible to avoid it. It is essential to control all oozing when the patient is jaundiced.

From the investigation of all of these problems concerning hepatic function, the work that is being carried out enthusiastically by many investigators, from the work that is being done to facilitate a better conception of disease of the gall bladder and bile tract, and from the technical improvements (preparation of patients for operation and better after-care), much progress can be expected in the treatment of cholecystic disease, in spite of the fact that a few years ago it was often said that there was nothing more to be learned about gall bladder trouble.

THE DIAGNOSIS AND TREATMENT OF THE MOST FREQUENT TYPES OF GOITER

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My experiences in the diagnostic goiter section of the Mayo Clinic, as a "Fellow in Surgery," together with experiences in private practice, illustrated by the following case, have led me to

the conclusion that goiter conditions are frequently diagnosed wrong. Failure to make a correct diagnosis usually means improper treatment.

Report of Case. Mrs. W. S. phoned me stating she was going to the Mayo clinic because of a goiter and asking me for letters of reference. She had recently received a variety of opinions as to the condition of her thyroid gland. Two doctors informed her she had a goiter and advised her never to have it operated upon. One other doctor told her she had a goiter and advised immediate operation.

She was referred to Dr. F. A. Willius at the clinic. The special findings in the case were as follows:

The systolic blood pressure was 122 and diastolic 78. The analysis of a 12-hour specimen of urine showed an excretion of 550 c.c., specific gravity 1.025, acid reaction and albumin 1 (on a basis of 1 to 4). The blood count showed the hemoglobin to be 73 per cent. and leucocytes 9,100. The blood Wassermann was negative. The ear, nose and throat examination showed the tonsils to have been operated upon but there were remaining tags on both sides; the ears and nose were negative. The x-ray of the chest showed rather marked bronchial thickening of both upper lobes. The electrocardiogram gave a rate of 100, sinus tachycardia, right ventricular preponderance and inverted T wave in derivation III.

A diagnosis of cardiac neurosis was made and more rest, relaxation and assurance advised in her management.

These experiences have prompted me to attempt to stress old facts, and yet, apparently unfamiliar ones, pertaining to the thyroid.

Many classifications of goiter have been suggested. They have been divided into two groups, those with hyperthyroidism and those without hyperthyroidism. Some hold there are only three definite types of goiter, colloid, adenomatous and exophthalmic, and that all other types seen clinically are either variations or combinations of these three. Then, again, they have been divided into adolescent goiters, mechanical goiters, toxic goiters, inflammatory goiters and malignant goiters. Plummer's¹ classification of thyroid disease into nine distinct diseases is a complete, simple and practical grouping. He recognizes: 1, diffuse colloid goiter; 2, adenomatous goiter without hyperthyroidism; 3, adenomatous goiter with hyperthyroidism; 4, exophthalmic goiter; 5, myxedema; 6, cretinism; 7, myxedema of childhood; 8, thyroiditis, and 9, malignant disease of the thyroid.

I shall confine my discussion to the first four conditions, as they are the ones most frequently

met with and where the error in diagnosis and treatment is most often made.

Diffuse Colloid Goiter. Diffuse colloid goiter is a condition of the thyroid gland where the general contour of the organ remains the same except it is enlarged. It is characterized by an excess of colloid in the acini and is unassociated with symptoms of hyperthyroidism. Many patients with diffuse colloid goiter have increased vascularity of the gland and very frequently one finds thrills and bruit. On palpation the gland has a soft, spongy feel and should be readily distinguished from the exophthalmic goiter, which is rather hard. If the symmetric enlargement occurs in a nervous unstable person a mistaken diagnosis of exophthalmic goiter will often be made unless one takes advantage of the basal metabolic rate which is of great value in distinguishing these cases because the rate is not only not persistently elevated in the diffuse colloid goiter, but is most often somewhat below normal. In exophthalmic goiter, with rare exception the basal metabolic rate is above normal.

Patients with diffuse colloid goiter are greatly benefited by the administration of iodine, thyroid extract and thyroxine. Marine² has definitely proved that iodine insufficiency is the important etiological factor in these cases. Failure of the goiter to respond to treatment indicates that the enlargement is probably not a typical diffuse colloid goiter. Operation in this type of goiter is indicated only if the gland becomes extremely large and does not respond to treatment, which is rare.

Adenomatous Goiter Without Hyperthyroidism. Adenomatous goiter without toxic symptoms is a nodular enlargement of the thyroid gland which does not cause constitutional symptoms, although it frequently simulates such a condition when occurring in individuals who are nervous or whose general health is not good. Clinically adenomatous goiter can be recognized by the irregular type of growth which it produces. The thyroid is symmetrically enlarged and a single or many rounded tumors may be felt on palpation. These tumors may be soft or hard, depending upon whether the degenerative changes that have taken place have been hemorrhagic, cystic or calcareous.

Treatment in this type of goiter other than operative is ineffective in causing the disappearance of the tumors. Surgery is indicated for

cosmetic reasons, for the relief of symptoms incident to the pressure of the growth and for a preventive measure against hyperthyroidism, as a certain proportion of these cases develop hyperthyroidism later (averaging fourteen years after the appearance of the goiter). In advising surgery certain factors should be taken into consideration. Since it is a well-known fact that toxic symptoms do not appear at the time of life that the adenomas develop and that the thyroid gland at that time is very essential, operation in young people should be deferred. Iodine medication is particularly dangerous in cases of long standing of adenomatous goiter without hyperthyroidism because of the apparent closely related incidence of the beginning of the hyperthyroidism and the administration of iodine.

Adenomatous Goiter With Hyperthyroidism. In this condition the patient usually gives a history of the presence of a goiter from adolescence. It increases in size until the patient reaches the age of eighteen or nineteen years, then gradually decreases until about the twenty-fifth year, leaving a small barely palpable growth, usually adenomatous. For a number of years it may remain quiescent and then gradually becomes larger. In women this enlargement often occurs during pregnancy. Hyperthyroidism seldom develops before the age of thirty and is most common after forty. Its onset is insidious and its course even. It is accompanied by a constant loss in weight and strength, with the gradual development of cardiac signs. The basal metabolic rate is elevated. The adenomatous goiter with hyperthyroidism lacks the stormy course of that of exophthalmic goiter.

Adenomatous goiter with hyperthyroidism is definitely surgical unless the damage to the patient has been so great that the risk of operation is too hazardous. In from two weeks to ten days after the removal of the adenomatous tissue the hyperthyroidism has completely disappeared. Judd³ found that after the lapse of two years 83 per cent of these patients considered themselves cured and 5 per cent more were markedly improved.

Exophthalmic Goiter. As defined by Boothby,⁴ exophthalmic goiter is "a constitutional disease apparently due to an excessive, probably an abnormal, secretion of an enlarged thyroid gland showing pathologically diffuse, parenchymatous hypertrophy and hyperplasia. It is characterized

by an increased basal metabolic rate with the resulting secondary manifestations, by a peculiar nervous syndrome and usually, by exophthalmos, with a tendency to gastro-intestinal crises of vomiting and diarrhea." The disease usually follows an acute or chronic course. The gland is symmetrical and feels "shotty" on palpation, with the presence in a large majority of cases of thrills and bruit. The bruit in exophthalmic goiter has a maximum intensity over the superior pole and has a drawn-out blowing character which differentiates it from a carotid bruit. Marked bilateral exophthalmos is conclusive evidence of the existence of exophthalmic goiter. It may occur early or late in the disease and be out of proportion to the elevation of the basal metabolic rate. The pulse record is of uncertain value unless a long and careful hospital study can be made. A low pulse pressure precludes the diagnosis of exophthalmic goiter. Restlessness and irritability are marked symptoms. The patients seem stimulated and their movements are semi-purposeful or even choreiform. Increased appetite accompanied by loss in weight is almost invariably a symptom. Loss of strength, especially in the quadriceps, occurs early in the disease.

The most satisfactory results in the treatment of exophthalmic goiter are obtained through surgery. It cannot be denied that nearly all cases improve under medical management and some apparently recover. In the beginning of the disease it is impossible to distinguish between the patients who are destined to fall in this group and those who may suffer severe damage as the disease progresses. Great responsibility is therefore assumed by advising medical treatment in the early cases where thyroidectomy would prevent the development of these severe conditions.

Iodin easily administered in the form of Lugol's solution is of great value in the pre-operative and post-operative management of these cases, as shown by Plummer.⁵

SUMMARY—1. Plummer's classification of thyroid diseases is a simple yet practical grouping.

2. Colloid goiters occurring in young people are not surgical and respond to medical treatment.

3. In adenomatous goiters, toxic symptoms do not appear until the goiter has been present for an average of about fourteen years. Iodine

therapy is not indicated in adenomatous goiters, at least not in those of long standing, because of the apparent danger of precipitating the symptoms of hyperthyroidism. All adenomatous goiter patients with hyperthyroidism are surgical if the general condition of the patient will justify an operation.

4. Exophthalmic goiters should be diagnosed early in the course of the disease, so as to prevent marked damage to the vital organs.

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TOXIC AND EXOPHTHALMIC GOITER

NECESSITY OF CLEAR DIFFERENTIATION BEFORE IODINE THERAPY

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Plummer, about 1911, followed by Boothby some years later, in several papers clearly differentiated exophthalmic goiter, or so-called primary hyperthyroidism and adenoma with toxic symptoms or secondary hyperthyroidism. It is not out of place to re-emphasize at this time for the benefit of the general practitioner the importance of differentiating these two clinical entities. The use of Lugol's solution makes a clear understanding of the two types important, for in one case marked benefit is obtained; in the other distinct harm.

Pathology. Many attempts¹ have been made to correlate pathological and clinical pictures without success except in the exophthalmic type. Here the pathological picture has become fairly well defined and after detailed study in a large series of cases is regarded as specific for the condition. Grossly, this consists of a smooth firm increase in size with increased vascularity. Microscopically, there is hypertrophy of the acinar cells from cuboidal to columnar shape with marked hyperplasia. The acinar cells are infolded in

many places due to the increase in number. The stroma shows evidence of proliferation and areas of round celled infiltration. The colloid is moderately increased, thinner than normal and poorer in staining qualities. In the adenoma, the latest studies fail to find a distinguishing characteristic between the histology of the clinically toxic and non-toxic glands. Grossly, the gland is irregularly enlarged and nodular. There may be one nodule or many. The nodules are multiple in 45 to 50 per cent of the cases. Cysts may be present. The adenomatous areas are well encapsulated. Microscopically the adenomas are of two types, i. e., fetal and adult. The fetal type are solid cords of gland cells or small alveoli with or without colloid. The adult type closely resembles the normal adult thyroid with moderately large acini lined by cuboidal cells filled with colloid. In the adult type we may find in this limited area any of the pathological pictures found in the thyroid gland. It may resemble simple colloid goiter, areas may be broken down forming cysts; there may be calcareous infiltration, areas of hyaline degeneration, etc. No characteristic cellular difference is seen in the toxic or non-toxic glands.

Symptomatology. The exophthalmic goiter comes on characteristically in the second and third decade. It is a disease of younger people. The four cardinal signs goiter, exophthalmus, tachycardia, tremor, are all developed only in the later stages. Goiter often is not present. Exophthalmus is a late symptom with our present refined methods of diagnosis. More often some nervousness and slight tremor, rapid exhaustion and palpitation is complained of. There is on examination some elevation of the pulse perhaps to 100. The rate is persistently elevated, however, and a lowering of as much as 10 beats is not obtained even at complete rest. There may be sweats, gastro-intestinal crises, but these are symptoms of the well-developed case. Loss of weight with good appetite, muscle weakness all develop in time. The basal metabolism is definitely elevated and on this hinges the diagnosis in an early state.

Neurocirculatory athenia may give all the symptoms, even a basal metabolism of plus 20 on first test but normal on repeated examination. This is an important point in differential diagnosis.² Of 1,675 patients in the Lahey Clinic, Boston, on whom 5,200 basal metabolisms were

run, 400 had no elevation, although with symptoms closely resembling hyperthyroidism.

The toxic adenoma gives a different story. The disease is one of the fourth and fifth decades,³ 77 per cent of the cases entering the Mayo clinic were more than 40, the average being 48. After having a nodular enlargement of the thyroid for a number of years (average 14 to 19 different series) the patient begins to lose weight in spite of good appetite. There may be some nervousness and excitability with quick tiring on mental or physical effort. No exophthalmus ever develops in a true toxic adenoma. There is tremor, tachycardia, a moderate elevation of the blood pressure. Gastro-intestinal crisis are not seen. The basal metabolism is elevated, also, but not to the corresponding degree in the exophthalmic type. Physiologically, the adenomatous glands are pouring excessive secretions of normal thyroid hormone into the body. All the symptoms can be produced by administration of thyroid extract, whereas the exophthalmic syndrome cannot be so produced; hence, it is believed due to an altered secretion rather than an excessive one.

Treatment. The accidental discovery of the use of iodine for detoxification in poisonous goiter is the critical point for which this paper is written. Plummer in 1922 by a carefully controlled study found a reduction of basal metabolism rate, improved clinical course and fewer post operative reactions after administration of iodine to primary cases of hyperthyroidism. There is a deficiency of iodine in the exophthalmic gland. This type uses up iodine faster than the normal gland. An excellent working hypothesis is that mentioned by Mason.⁴ Part of the excess thyroxin in exophthalmic goiter is deficient one molecule of iodine and this deficient substance is highly toxic. Administration of iodine converts the abnormal thyroxin to the normal molecule during actual administration of a large amount of iodine. The compound is loose, however, and soon reverts back to the toxic type unless the iodine supply is kept up.

Previous to the use of Lugol's solution medical and surgical treatment of the thyroid had been classified down to a fine point starting with medical treatment such as rest, ice bags, quinine hydrobromide in the mild case to one to six step operations in the more severe cases. Even then the severe case was a problem and a few unavoid-

able deaths occurred from crisis following operation. These can now be prevented by administration of Lugol's solution 5 to 10 minims for a week or 10 days previous to operation and for a period during which the patient is safely over the crisis post operatively. Further study brings out the fact, however, that iodine is only a temporary expedient and if kept up soon loses its effect.

The dread which we had in administering iodine to the hyperactive goiter case was due to lack of differentiation between the toxic adenoma and the primary hyperthyroidism. Iodine administered to an adenoma case may light up toxic symptoms where not before present or when present make them markedly worse. For this reason the use of iodized table salt where members of all ages partake of the same is a pernicious practice. The treatment of toxic adenoma is removal. This can be done in a large proportion of cases in one stage. Ligation does not bring subsidence of symptoms as in the primary type. Boothby brings out the fact, however, that administration of iodine as in the pri-

vent of iodine does not change present methods, only makes operation safer when indicated. Primary hyperthyroidism is more frequently a graded procedure, whereas secondary hyperthyroidism is usually a one-step operation. The use of iodine for a short time before operation in adenoma apparently does not harm.

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RADIUM IN TWENTY CASES OF
HYPERTHYROIDISM

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For the most part the cases listed represent the severe conditions encountered; the poor risks, the terrific onset, the post operatives, and those with serious complications. In all cases 50 miligram doses using gamma ray only with one

No.	Sex	Age	Diagnosis	Complications	B. M. R.	Pulse	Total Dose	No. R.	Period of R.	Post Radiation	B. M. R.	Pulse	Results
1	F	38	Toxic Ad.	2 Sub-Total Thyroidectomies	...	120	700 mg. hr.	3	14 days	...	78	Imp.	1925
2	F	16	Exop.	Bronchitis	61	120	3000 mg. hr.	4	40 days	60	110	Cure	1 yr.
3	F	20	Exop.	Purulent Sinusitis	...	135	500 mg. hr.	1	1 day	...	130	Died	7 days
4	F	40	Toxic Ad.	Acute onset	Unable to get	100	1425 mg. hr.	3	16 days	107	90	Unimp.	
5	M	46	Exop.	Lost 27 lbs.	61	120	3700 mg. hr.	6	9 mos.	12	80	Cure	2 yrs.
6	F	21	Toxic Ad.	Pressure	25	95	480 mg. hr.	1	1 day	5	80	Cure	2 yrs.
7	F	19	Exop.	Lost 30 lbs.	125	120	2990 mg. hr.	4	20 days	22	100	Imp.	6 mos.
8	F	22	Exop.	2 ligations	70	120	2000 mg. hr.	3	5 days	58	110	Im.	3 mos.
9	F	50	Exop.	Lobectomy	59	100	1375 mg. hr.	2	9 days	...	...	Imp.	9 mos.
				Menopause									
				Heart Lesion									
10	F	50	Toxic Ad.	None	92	104	2930 mg. hr.	4	14 days	...	90	Cure	2 yrs.
11	F	57	Toxic Ad.	Diabetes	84	120	2700 mg. hr.	3	13 days	...	88	Imp.	2 yrs.
12	F	52	Toxic Ad.	Lost 35 lbs.	69	120	2700 mg. hr.	3	10 days	...	115	Unimp.	3 mos.
				Diarrhea									
13	F	19	Exop.	Ligation	44	115	2775 mg. hr.	3	10 days	29	100	Imp.	1 yr.
14	F	60	Exop.	Lost 87 lbs.	95	90	2640 mg. hr.	2	1 day	...	100	Died	7 days
				2 Ligations									
				Had Thyroid Ext.									
15	F	54	Toxic Ad.	B. L. Pr. 200	81	125	2000 mg. hr.	3	33 days	...	115	Imp.	1 yr.
				2 Ligations									
16	F	27	Toxic Ad.	None	12	110	3100 mg. hr.	4	6 days	—10	90	Cure	1 yr.
17	M	43	Toxic Ad.	Psychopath	32	110	2500 mg. hr.	3	10 days	...	...	Cure	Working
18	F	44	Toxic Ad.	X Ray 4 yrs. ago	44	115	3000 mg. hr.	4	10 days	...	90	Imp.	6 mos.
				Acute recurrence									
19	F	35	Exop.	Fever T. B. (?)	20	100	1900 mg. hr.	2	14 days	...	85	Imp.	18 mos.
20	F	24	Toxic Ad.	None	43	105	3500 mg. hr.	4	14 days	...	115	Imp.	3 mos.

mary type for a short period prior to operation to guard against crisis of the primary type apparently does no harm.

Summary. Primary and secondary hyperthyroidism give two distinct clinical pictures. The pathology of primary hyperthyroidism is characteristic. The use of iodine makes important a thorough understanding of these two types because the treatment is dissimilar. The basal metabolism rate is an important guide in treatment but not in differential diagnosis. The ad-

inch distance were given raying the thymus area in only a few instances. External radiation through the skin and over the glands was exclusively employed. Clinical cures are defined as those that are able to do daily work from one to four years after treatment and not exhibiting symptoms requiring treatment. The improved cases are those presenting marked improvement but not free from symptoms of hyperthyroidism. The unimproved cases numbering two have been lost sight of and did not show any improvement

when last seen. The two fatal cases died seven and twelve days following treatment both being cases almost in extremis when treated. Improvement was noted in 16 cases, 80% of the group, six of whom are listed as cures constituting 30% of the total. The accompanying table gives clinical data on the cases treated.

Conclusions: radium is of distinct value in the treatment of the severer types of hyperthyroidism.

PRIMARY CARCINOMA OF THE APPENDIX

A REPORT OF TWO CASES, WITH A BRIEF REVIEW OF THE LITERATURE. 1.

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Leo Meyer¹ said in discussing primary carcinoma of the appendix: "So much confusion exists as to the exact place, both clinically and pathologically, the lesion should occupy that every case should be reported in detail in the hope that a careful sifting and comparison of large numbers of accurate reports may help to clear up the subject." With this object in view, as well as to again emphasize certain conclusions already drawn by many writers on this topic, I present the following cases:

I observed Case 1 while assistant to Dr. William E. Schroeder and report it with his permission. Case 2 is from my own service.

Case 1. Mr. P. M., white, male, 30 years of age, native American, entered the hospital, in December 29, 1916, for treatment of double inguinal hernia. The history was usual for inguinal hernia, excepting that at times he had right iliac pain of a different character from the pain in the hernial regions which was not relieved by rest, as was the hernial pain. Physical examination revealed, in addition to bilateral indirect inguinal herniae, a definite tenderness in the region of McBurney's point. For these reasons, Dr. Schroeder, in addition to performing double herniorrhaphy, removed the appendix.

The appendix was 11 cm. long and about 0.7 cm. in diameter, excepting at the distal end where it widened out to a bulbous smooth rounded mass 1.0 cm. in diameter. The entire appendix was whiter than normal, firm and smooth, with no adhesions to neighboring structures. On section the walls were much thickened and fibrous, with the lumen patent, though narrowed, up to within a very short distance of the terminal mass, where it was totally obliterated.

There were no palpable lymph nodes nor was there any thickening of the meso-appendix or any gross change in the cecum. Microscopic section at the time was diagnosed by Dr. Holmes as carcinoma, and later described by Dr. C. A. Barnes as follows:

"In transverse section the lumen of the organ is entirely obliterated and no lining epithelium, glandular, or lymphoid tissue is seen. The muscularis is consid-



Fig. 1. Case I. Low Power. Longitudinal section of Appendix. Shows tumor mass in tip.

erably hypertrophied and the blood vessels of the peritoneal surface are engorged with blood. Occupying the entire inner portion of the organ there is an infiltrating new growth assuming a medullary arrangement composed of rather light staining cells. These have the appearance of invading and being compressed in places by fibrous connective tissue and extend into and through the entire muscular coat, some groups being seen beneath the peritoneal surface. Mitotic figures are infrequent. Many eosinophiles are seen scattered throughout the tumor area. At no point is invasion of the blood vessels definitely indicated.

"In a study of the longitudinal section of this same case glandular structure and lymphoid tissue are present at one end. The transition to tumor tissue is quite abrupt but in no place in this section can its origin from glandular elements be demonstrated. Nests of tumor cells are seen adjoining, and in places within the lymphoid structures. Many of the cells forming the periphery of the processes of tumor tissue are columnar in appearance and an attempt at reproduc-

tion of glandular tissue with lumena is noted in some of the smaller group of cells.

"It is possible that serial sections might show a direct transition from normal to tumor tissue. The relative lack of malignancy in most of these tumors has led many observers to designate them as 'Pseudo carcinoma,' 'Carcinoid tumor,' 'Naevus.'"

This patient made an uneventful recovery, leaving the hospital on January 17. Three months prior to the writing of this paper he was seen by Dr. Schroeder who reports that he found him in perfect health with no symptoms or findings suggestive of a recurrence of cancer.

Case 2. Mrs. H. C., white, American, about thirty years old, entered the hospital March 13, 1920, giving a rather typical history of a chronic appendicitis, with pain and tenderness, more or less constant in the appendiceal region, more severe when constipated, moderate but gradual loss of weight, and general lack of "pep," extending over a period of ten years.

The evening before entering the hospital she suffered her first attack of acute pain and was referred to me for treatment by her physician, Dr. Elmer S. Horine, of Maywood, Illinois. Examination revealed a defi-

the diagnosis at the operating table of carcinoma of the tip of the appendix.

Aside from being shorter (this one measured 8 cm.) its gross description tallies exactly with that of the first case. Microscopic section was diagnosed at the time by Professor Zeit as "Beginning Medullary Car-



Fig. 3. Case 2. Low Power. Shows tumor mass with cell clusters.

cinoma of the Tip of the Appendix." Dr. Barnes has recently described it more in detail as follows:

"In this section, which does not include an entire transverse section of the appendix, the tissue is composed of muscular layer and an adjacent area of infiltrating tumor tissue. In a few places these tumor cells in arrangement and appearance resemble those seen in the sections previously described. The greater bulk of the tumor tissue, however, consists of very small, deeply staining groups of round cells, with a fair proportion of supporting structure, apparently composed of fibrous and lymphoid tissue being invaded. Eosinophiles are infrequent. Here again invasion of blood vessel lumina is not noted and *growth along lymphatics extends through the muscular coat.*"

This patient also made an uneventful recovery, leaving the hospital nine days later. I have seen her several times since and am pleased to present her here today and to be able to say that to date she has had no symptoms to suggest in any way a recurrence of carcinoma. (See page 9.) Her former symptoms cleared up shortly after leaving the hospital, she has gained in weight, in strength, and in general bodily vigor.

Pathologically these tumors do not differ from the majority of those already reported. The first known case was reported by Merling² in 1838. Since then approximately 300 authentic cases have appeared in the literature. All of these various writers have practically agreed that there are two rather definite types of primary carcinomas occurring in the appendix; one, of which Case 2 is an example, displaying masses or islets of closely packed round cells, very similar morphologically to those in basal-cellular epithelio-



Fig. 2. Case 1. High Power. Shows invasion of muscularis by tumor cell masses in glandular arrangement.

nite and locally tender area at McBurney's point, slight rigidity of the lower right rectus muscle, with a leucocyte count of 11,200. In the absence of other abnormal findings a diagnosis of an acute exacerbation of chronic appendicitis was made and the appendix removed.

Because of the marked similarity in appearance of this specimen to the one described as "Case 1," I made

mata, and the other in which the cells show a tendency to columnar shape and glandular or "adeno" arrangement as mentioned in Dr. Barnes' description of Case 1. They also agree that there are transitional forms, showing more

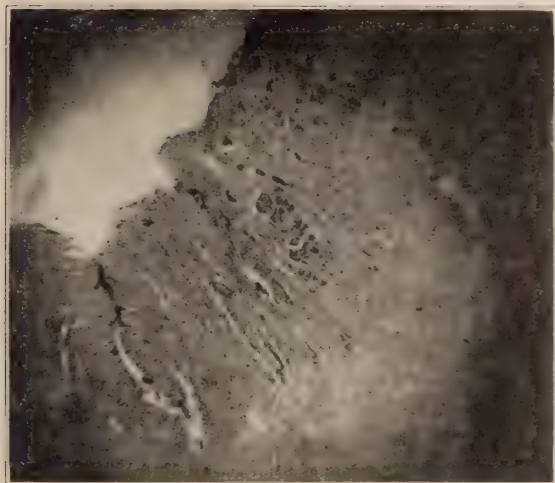


Fig. 4. Case 2. Low Power. Shows extension of tumor tissue outward from mucosa into muscularis (long. sect.).

or less of both types. Either the "round" or "columnar" forms may be classed as "scirrhous" or "medullary," according to the relative proportion of stroma and tumor cells. In addition to these two main types, of which the small round cell is twice as frequent as the columnar, other types have been occasionally observed; "Colloid" or "Gelatinous," "Mixed," "Transitional," and "Endotheliomata." While histologically and morphologically most writers agree that these growths present carcinoma characteristics, yet, because of their relative nonmalignancy, pathologists have designated them by a varied descriptive nomenclature.

Warthin³ points out their similarity to rodent ulcer; Ashoff⁴ and Mallory⁵ liken them to naevi; Meyer¹ quotes Miloslowich's classification: "a small-celled non-malignant tumor and a cylindrical-celled cancer, similar to cancer in other parts of the intestinal tract;" by still others it has been variously designated as "Pseudo-carcinoma," "Carcinoid," "Benign Cancer," or believed to be a chronic hyperplastic lymphangitis, or hyperplastic changes in other tissues due to inflammatory changes, perforation and scar formation in the organ.

The location, while usually in the tip, as in the above reports, is not infrequently in the wall of the appendix at any point, and in these cases, usually at a point of stricture.

The exact etiology, in common with all carcinomata, is, of course, unknown. The appendix is, however, an ideal location for the application of all existing theories. Being a fetal out-budding, the distal end would be especially prone to harbor "rests" of embryonal cells and so conform to the biological theories. Because of its vestigial character and its susceptibility to *ordinary* infection, its general resistance would be properly lowered to receive *cancer* infection. And, if the nutritional theory is accepted, we may say that because of its precarious blood supply, anatomical position, frequent infection, and vestigial character, it suffers from nutritional disturbances probably more than any other one organ in the body.

While appendiceal cancer has been discovered at all ages between five (McGrath⁶) to eighty-one years (Rogg⁷) the majority reported oc-



Fig. 5. Case 2. High Power. Shows masses of tumor cells of "Baso-celled" type invading muscularis.

curred in the third decade, showing an average age earlier than that of cancer elsewhere. All series of cases reported show a predominance of females, but it has been suggested that this is explained by the much more frequent opportunity of removing the appendix in women during

laparotomy for other lesions. A large majority of cases reported show a coexisting appendicitis, some "acute," but more with the "chronic" syndrome. Warwick,⁸ quoting MacCarty and McGrath,⁶ state that as high as 90 per cent occurred with appendicitis obliterans.

There is no characteristic symptom complex. The majority have given a clinical picture of chronic appendicitis, a considerable number have manifested all of the stages of an acute appendix, while the remainder were removed incidentally during some other operation, and at post mortem.

The condition has never been diagnosed before operation and rarely at time of operation. The final diagnosis, as of all tumors, rests with the pathologist. This should impress upon us the necessity not only for sectioning all appendices removed, but the necessity for multiple or serial sections of each specimen.

Since these cases are not operated upon under their own diagnosis the immediate prognosis is that of the condition for which the operation was performed. The late prognosis must be reserved. A review of the literature leads us to conclude that metastasis is late and infrequent. Notwithstanding this conclusion there are a sufficient number of cases on record of undoubted recurrence of appendiceal carcinomas to warn us to make a guarded prognosis and to keep all such cases under observation. Elting,⁹ McWilliams,¹⁰ Lejars,¹¹ Whipman,¹² Lanz,¹³ White,¹⁴ Ruyter,¹⁵ La Comte,¹⁶ Ross,¹⁷ Geist,¹⁸ Luce,¹⁹ Coley,²⁰ Berger,²¹ Brunton & Glover,²² and Obendorfer²³ have all reported such cases, most of these showing recurrence within three months. Microscopic section showed in each instance tumor cells of the same type as those found at the primary operation in the appendix.

The columnar type is the usual one to metastasize, the round cell type rarely. The colloid type has a tendency to rupture through into the peritoneal cavity; also to involve the cecum. A few cases of cecal carcinoma have been strongly suspected of appendiceal origin,²⁴ but not definitely proven, as the pathologists find it difficult to say whether the cecum or the appendix was the primary seat of the lesion. In a number of these cases the meso-appendix and the neighboring lymph nodes have been found involved.

The treatment is appendectomy. McWilliams¹⁰

has advised, because of the occasional case of extension and because of the difficulty in recognizing the condition macroscopically in all appendectomies to remove the meso-appendix widely. The further treatment should be a close follow-up of all patients found to have had one of these tumors and reoperation at the first suggestion of recurrence.

CONCLUSIONS

In concluding I can only emphasize again the conclusions formulated by Meyer,¹ Warwick,⁸ Reimann²⁵ and others:

1. That primary carcinoma of the appendix occurs in at least an average of 0.5 per cent of removed appendices.

2. That these present two main types; the spheroidal or round celled or "Basal-celled" type, and the "Columnar" or "adeno" type, of which the first is more common and the latter more prone to malignant characteristics.

3. That the condition has never been positively diagnosed pre-operative and rarely at operation.

4. That while by far the greater number have appeared benign, they show histologically, malignant characteristics; atypical arrangement of epithelium; atypical location of epithelium; and in a few cases, metastasis; for which reason we should remove the appendix regardless of appearance or of symptoms, whenever opening the abdomen in its neighborhood, and in all cases of appendectomy make multiple or serial sections for close microscopic study.

5. That all patients showing carcinoma of the appendix, however seemingly benign, should be kept under close observation.

*Presented in Clinic at Wesley Memorial Hospital, Chicago, October 24, 1923, during the Thirteenth Annual Session of the Clinical Congress of the American College of Surgeons.

†Now deceased.

‡Still well in October, 1925, at which time a complete examination was made, including Gastro-intestinal x-ray.

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SLIDING HERNIA*

PAUL A. WHITE, M.D., F. A. C. S.

DAVENPORT, IOWA

What is sliding hernia? The only viscus that can be contained in a true sliding hernia is one whose normal habitat is the posterior abdominal wall, is only partially covered with peritoneum, and which has normally no appreciable mesentery.⁴ The ascending colon, descending colon, and bladder are the only organs that normally fall within these limitations. Congenital developmental anomalies of the cecum or first por-

tion of the sigmoid may occur, leaving them partially covered with peritoneum. They may under these circumstances be contained in sliding hernias. The cecum may thus often form the posterior portion of the sac while the appendix lies within the sac.²

Several authors have proposed theories regarding the formation of sliding hernia. Those evolved by Moschcowitz appear the most logical. He believes a sliding hernia may be produced by either of two mechanisms. By one method, which he calls the pushing type, the viscus involved is conceived as first presenting at the inguinal opening. The peritoneum, if present, is drawn down by this viscus and the resulting sac is always small. By the other method the peritoneum makes the initial entrance into the inguinal canal. As it enlarges it may contain the usual elements of a simple hernia. After enlargement it may make traction on the large bowel and thus bring it through the inguinal opening with its nutrient vessels.

I have encountered but two cases of sliding hernia in five years of active surgical practice, and this probably represents general surgical experience outside of clinical centers or institutions. Reports of this condition are not common.⁴ The surgeon may not recognize sliding hernia when he has a case of it. The obstacles he encounters he may believe are due to adhesions resulting from former inflammatory processes caused by pressure from a truss, or infection. He may not wish to record an unpleasant experience. If a sliding hernia is not recognized real difficulties may arise and possibilities for harm to the patient be ever present. Considerable confusion arises from the erroneous conception that invagination of the cecum, transverse colon, or sigmoid in a hernial sac constitutes sliding hernia of these structures.

The diagnosis is not often made preoperatively because the differential diagnostic points are so trivial that they do not lead to definite conclusions and because the condition is so rare that it may not enter the examiner's mind. The diagnosis was not be made before operation in any instance in a series of seven cases reported by Criley.¹

The most reliable points in the diagnosis of sliding hernias are: 1. they are seldom strangulated because they are usually large with a wide inguinal opening; 2. they cannot be completely

*Presented before the Association of the Resident and ex-Resident Physicians of the Mayo Clinic at Rochester, Minn., Oct. 19, 1925.

reduced and attempts at reduction are painful; 3. pressure from a truss is painful, even intolerable; for this reason a truss that has been worn for a long time may be discarded in later years, which may mean that a simple hernia, formerly reducible, has acquired the nature of a sliding hernia; 4. tympany may be elicited by percussion over the tumor because of gas in the colon; 5. a roentgenogram of the colon may show the viscus in the hernia (Fig. 1) and 6, when the bladder is suspected to be the sliding element in a hernia such measures as injection of air or



Fig. 1. Rt. Inguinal Sliding Hernia. A. Rectum. B. Cecum and ascending colon.

water and percussion over the area, followed by deflation or decompression have been suggested. There is a decrease in the size of the tumor if the bladder is responsible. A cystogram may be of value.

A number of surgical procedures have been evolved for the reduction and cure of sliding hernia. Most surgeons, however, have found these inapplicable because of the variability of conditions presented in different cases. The method of making flaps of the peritoneal sac⁶ and turning them around the prolapsed cecum to cover its denuded surface has not been pos-

sible of execution in many cases. Most surgeons have met the situation with the method demanded by the exigencies of the occasion and the originality and skill inherent in their training and experience. Moschcowitz describes the first case he encountered, in which he freed the bowel by cutting and ligating vessels in the adherent tissues. He realized, to his discomfiture later, that he had ligated the branches of the inferior mesenteric artery supplying that segment of the prolapsed bowel, but fortunately no untoward complications developed. Many surgeons have probably had the same experience with their first case of sliding hernia, except that perhaps their results have not been so fortunate.

Moschcowitz has recently made a suggestion with regard to surgical procedure that may be of value. In the pushing type of hernia with small or no peritoneal sac he suggests that the incision in the peritoneum should be high at the internal inguinal ring so that traction may be put on the intra-abdominal portion of the prolapsed bowel. This, he believes, combined with blunt dissection and pushing upward of the lower part of the loop of bowel will replace it beneath the structures of the inguinal floor. When the hernia is the pulling type, with a larger peritoneal sac and usually lower prolapse of the bowel, he would make a second incision opposite the umbilical region, drop the patient in the Trendelenburg position, pack off the small bowel, then "reverse the mechanism" by making traction higher on the intra-abdominal portion of the colon. This should pull the prolapsed loop of bowel with its peritoneum up to the level of the inguinal ring. The parietal peritoneum may then be sutured to the posterior abdominal structures and the upper incision closed. The sac in the original incision is now ligated and excised, the remaining loop of the prolapsed bowel pushed back beneath the structures of the inguinal floor, and the usual radical repair for inguinal hernia done.

One of the two cases of sliding hernia which I have observed was of an enormous right inguinal hernia. The patient was seventy-nine years old and not having trouble from the hernia. Because of its great size and because of the age of the patient the hernia was considered inoperable. The patient first noticed this hernia sixty years ago during forced marches while he was a soldier in the Civil War. For many years it could be reduced and was retained with a truss.

It then apparently had all the characteristics of a simple indirect inguinal hernia. During succeeding years it continued to increase in size and gradually assumed such proportions (Fig. 1) that it extended down to the level of the knees. It contained the cecum, ascending colon, part of the transverse colon, and probably most of the small intestine. A roentgenogram taken higher than the one illustrated shows complete prolapse of the transverse colon toward the inguinal ring from its attachment in the splenic region.

The second patient was a man aged forty-nine, with a hernia protruding in the left inguinal region. He weighed 225 pounds, and was first seen in August, 1921. His history and physical examination except those relating to the hernia were unimportant. Twenty-four years before examination, while he was employed in a glass factory in Russia, he jumped from a box to the floor, and at once felt a piercing pain in the left inguinal region. Examining here he noticed a small mass which felt like a marble or a button. During the next twenty years he wore a truss and had no discomfort from the hernia. After coming to this country he worked as a peddler, lifting daily large barrels of apples, potatoes, and other vegetables without discomfort or inconvenience from either hernia or truss. Four years before I examined him he had felt a sudden piercing pain in the left inguinal region on attempting to lift his wife quickly from the floor, where she had fallen in a hysterical condition, to a nearby couch. On examination he found a mass "as large as a goose egg" in this location. The tumor was easily reduced and he continued to wear a truss for the three succeeding years without much difficulty. One year before I saw him an illness of his wife necessitated his running up and down stairs many times a day. During the next two or three months he began having difficulty in controlling the hernia with the truss and found it necessary to adjust it many times a day. After six months, pressure from the truss was becoming painful and he had much more difficulty in so adjusting it that it would retain the mass. Three months later he had discarded the truss.

Examination revealed a large left inguinal hernia with a wide neck, extending 25 cm. below the ramus of the pubis. The hernia was irreducible and attempts to reduce it were painful. The patient was a large man with a tense protuberant abdomen that focused its contents toward the inguinal region. The possibility that the tumor was a sliding hernia did not occur to me. If due consideration had been given to the size of the tumor, the wide neck of the sac, the inability to reduce the mass, and particularly to the patient's previous intolerance for the truss, doubtless at least a tentative diagnosis of sliding hernia could have been made. A roentgenogram of the colon would probably have shown the loop of bowel descending into the scrotum. There was an area of cutaneous atrophy and the scar of a recently healed ulcer in the left inguinal region, the result of years of pressure from the truss.

Operation was performed August 8, 1921. The usual inguinal incision was made parallel to Poupart's

ligament and 3 or 4 cm. above it, and the structures of the cord were separated from the mass. Fortunately the unusual appearance of the tumor dictated caution, and the incision in the sac was placed high at the internal inguinal ring. The hand when slipped into this opening passed into the sac down to about the level of the remus of the pubis where it ended like a mitten. Below this the mass continued, covered with adhesions and inflammatory exudate which made its identification as the large bowel very uncertain. The loop, however, turned back through the wide inguinal ring and was found to be the first loop of the sigmoid. The sac was empty and the redundant portion of it was ligated, excised, and the stump buried beneath the muscles of the abdominal wall.

By blunt dissection, traction on the descending loop, and upward pressure on the distal portion, the mass was finally reduced beneath the structures of the inguinal floor without traumatizing its blood vessels. The hernia was repaired by the Andres-Bassini-Masson method. The conjoined tendon and internal oblique muscle were sutured to Poupart's ligament as was the medial flap of the fascia of the external rectus muscle, both being brought beneath the cord. The lateral flap of the fascia was imbricated over the medial flap beneath the cord. Several sutures were also taken above the exit of the cord through the internal inguinal ring. Due to the recently healed ulcer or the unusual manipulation necessary, infection developed in the wound, but this ultimately disappeared.

Four months later the hernia had recurred and there was a hydrocele, about 15 cm. in diameter, on the left side. The hernia extended only to the entrance of the scrotum but, like the former one, was irreducible. In order to obviate the possibility of further recurrence consent to an orchidectomy was obtained in case it should prove necessary.

At the second operation, May 15, 1922, a loop of descending colon uncovered by peritoneum was found. There was no peritoneal sac and the peritoneum was not opened. The testicle was delivered, the cord structures ligated and orchidectomy completed. Because of the few adhesions about the prolapsed bowel it was comparatively easy to elevate the redundant loop by blunt dissection and push it upward into the inguinal region. Radical repair of the inguinal floor was done by the method previously described.

The hernia has not recurred after three years and a half although the patient has retained his weight and does all of the work in a busy grocery store.

SUMMARY

Sliding hernias are rare and a discussion of them may therefore be of service. The danger to the patient is real and difficulties are great at operation if the fundamental anatomic considerations regarding this type of hernia are not kept in mind.

Usually a definite diagnosis cannot be made

previous to operation.³ Any large hernia with a wide neck, particularly if it is irreducible and attempts at reduction are painful, should suggest the sliding variety. Intolerance for a truss is usual. Roentgenographic examination of the colon may be of value.

No definite surgical procedure is suitable for all cases of sliding hernia. The most important consideration is to recognize the presence of a prolapsed viscus not covered by peritoneum and to remember that the posterior structures of this viscus may contain important nutrient blood vessels. The sac, if present, should be opened high at the internal inguinal ring. This will allow examination, determination of the situation and identity of the structures involved and will be a great aid in planning the surgical procedure. The method adopted in reducing the bowel will largely be dictated by the exigencies of the circumstances as well as the training and originality of the surgeon. The plan described by Moschcowitz, of making traction on the intra-abdominal colon either through the incision in the inguinal region, or through a second incision placed beside the umbilicus, is worthy of consideration.

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RESECTION OF OBSTRUCTIONS AT THE VESICLE ORIFICE BY MEANS OF A NEW CYSTOSCOPIC INSTRUMENT EMPLOYING A CUTTING CURRENT CAPABLE OF OPERATION IN A WATER MEDIUM.* (ABSTRACT)

MAXIMILIAN STERN, M. D., F. A. C. S.
NEW YORK CITY

There has been a growing conviction that all obstructions of the vesicle neck would be amenable to minor surgery were the means at hand.

The production under my direction, of a cutting current which in addition to other necessary qualities is capable of operation in water, has made possible a cystoscopic procedure.

My instrument, the Resectoscope, consists of

1. a sheath which is one inch longer than usual and possesses a large square fenestrum to engage the protruding parts; 2. an examining telescope for general inspection and diagnosis; 3. the working parts joined in a compact bundle which comprises a direct vision telescope, a water conduit, a light carrier, and a manually controlled cutting loop, all of which terminate in the proximal end of the fenestrum in order to leave all space there for the engagement of intruding tissue.

The loop carries the cutting current and consists of a small ring of tungsten wire mounted on a peculiarly insulated shaft and is controlled by a gear mechanism so as to move it to the distal end of the fenestrum under guidance of the eye, removing in its excursion spaghetti-like sections of tissue without causing hemorrhage.

By this method, any number of sections can be removed at a single sitting from any part of the sphincter or lobes.

All types of obstructions have been treated with uniform success, including large obstructive so-called hypertrophies which consistently shrink in size within a few weeks and permit of complete emptying even in instances where a large residual was present.

219 West 81st Street.

THE FIRST (?) AMERICAN CASE OF MEGACOLON*

J. RAWSON PENNINGTON
CHICAGO

While engaged in the preparation of my "Treatise on the Diseases and Injuries of the Rectum, Anus and Pelvic Colon," I was agreeably surprised to discover that long before Hirschsprung's time a case of megacolon had been placed on record by a former member of the profession in Chicago—Dr. William Lewitt—at that time Demonstrator of Anatomy in Rush Medical College. It appeared in the *Chicago Medical Journal* for August, 1867 (p. 359) and is to the following effect:

ENLARGEMENT OF THE COLON

By WM. LEWITT, M. D.,

Demonstrator of Anatomy in Rush Medical College.

"In September, 1864, I was called upon, in company with Dr. E. Wells, of Ann Arbor, Mich., to visit Wm. C., *aet.* 21, to relieve him of what was called constipation. He had not had an evacuation of the

*Read before Chicago Medical Society, Feb. 24, 1926.

*Read before the Chicago Society of Medical History, Dec. 18, 1925.

bowels for three weeks, during which time he was in the hands of a *spiritual doctor*, who said he was suffering from *windy dropsy*.

"On visiting the patient we found him suffering intense agony from pain in the abdomen, with frequent desire to expel flatus from the rectum, which could only be accomplished by standing upon his head and hands, in a perpendicular position.

"On examining the patient, we found the abdomen enormously distended and so tense that it was impossible to feel the outlines of any of the abdominal organs. We learned from him that he once suffered from a similar attack, when about 12 years of age, which continued for about two weeks, without any evacuation of the bowels, and had ever since then been suffering from torpor of the bowels, only having an evacuation once in eight or ten days.

"Upon an examination per anum, we found what appeared to be an enormous tumor, filling up the entire pelvic cavity, and having all the appearance of a child's head at term; in fact, it bore a closer resemblance to that than anything else. The rectum appeared to be normal.

"He having taken large quantities of powerful cathartics, it was not deemed advisable to repeat them, and copious enemas, containing ol. terebinth., were ordered, but in attempting to use them, they could not be thrown up higher than the rectum and would flow immediately back. It was then thought advisable to try what could be done with the aid of the long rectum tube. This could not be carried farther up than the upper portion of the rectum, when it would fold upon itself, showing that there was some obstruction at the upper end of the rectum or sigmoid flexure of the colon.

"Laxatives were used, containing large quantities of fel. bov. and ol. terebinth., but with no effect, with the exception of occasionally an expulsion of small quantities of flatus from the rectum, and then only by resorting to the position mentioned above. He continued in this condition for about a week after I saw him, when he was suddenly seized with excruciating pain in the abdomen and in a few hours expired.

"A *post mortem* examination, made about six hours after death, revealed the following condition: The peritoneal cavity was enormously distended with gas, and a large quantity of fecal matter of a battery consistence, was extravasated into it, showing that perforation had taken place, and was the immediate cause of death. Perforation had taken place at several points in the colon. The ascending and descending colon (for there was no transverse) appeared like two immense cylinders, lying side by side, and extending from the epigastrium to the pelvis, and filled with soft fecal matter, and each was about 5½ inches in diameter. The caput coli was not much enlarged; the transverse colon was entirely obliterated, and the two cylinders of the ascending and descending colon were folded upon themselves, filling up the entire surface of the abdominal cavity. The sigmoid flexure was about the same diameter, and what was supposed

to be the tumor filling up the pelvic cavity was the sigmoid flexure enormously distended with fecal matter and folded down upon itself, giving it the firm and rounded shape of a pelvic tumor that was supposed to exist, and pressed so firmly upon the upper portion of the rectum as to prevent all passage of fecal matter into it. The colon was very much thickened and completely filled with fecal matter of a battery consistence, containing over a large wooden pail full, besides what had extravasated through the perforations into the peritoneal cavity.

The reason for his adopting that peculiar and unnatural position to enable him to expel the flatus from his bowels was that by that position the weight of the distended sigmoid flexure was taken off the upper portion of rectum and allowed a small quantity of flatus to escape, which afforded him some relief."

So far I have been unable to discover any earlier instance in this country but, assuming this possible, have interpolated a question mark in the title. Some years later, Harrington described another example from near Monmouth, in Warren County, Illinois, and this is found in the same journal, for April, 1878 (p. 400), though by this time it had been enlarged to the *Chicago Medical Journal and Examiner*.

Now in my book I show that Ruysch, the famous Dutch anatomist, gave a description of a case in a 5-year old girl as long ago as 1689; while Parry in England, in 1829, furnished details of one in an adult, and Billard, of France, the same year another in a child. Moreover, Von Ammon pictured the condition in his celebrated Atlas of Congenital Surgical Diseases, which, you remember, came out in 1842. So it seems best to term the condition megacolon; though, to be sure, Hirschsprung attracted permanent attention to it in his contributions of 1886-8.

I was naturally interested in our former fellow-citizen and wrote to a namesake, Dr. Frederick C. Lewitt, in San Francisco, who, as anticipated, proved to be a grandson. I am under obligations to him for the few data he was able to give me: Dr. William Lewitt was born in Leicester, England, in 1828. He went to San Francisco about 1874 and was Professor of Anatomy in the old Toland Medical College, which became the Medical Department of the University of California, and held this position until his death. From the San Francisco Health Department I learned the Doctor died at the age of 55, on Aug. 5, 1883.

From various other sources I found that Dr.

Lewitt graduated from the Medical Department of the University of Michigan, at Ann Arbor, in 1854, and from Jefferson Medical College, Philadelphia, in 1857. He apparently was soon appointed Demonstrator of Anatomy in his alma mater and was held in high esteem, as shown by the following testimonial from the class of 1867:

Ann Arbor, March 22, 1867.

To William Lewitt, M.D.,

Demonstrator of Anatomy, Medical Department, University of Michigan.

Dear Sir: Knowing, as we well do, the difficulty attending the position you occupy as Demonstrator of Anatomy, the energy necessary to supply so large a class with *material*—none of which having been furnished by this State—allow us to congratulate you on your success, and as members of the Class of 1866-67 to express our entire satisfaction with the manner in which your department has been conducted.

For while other schools during the past winter have felt most sorely what it is to be in *want*, we have had the benefit of a plentiful supply of the *best*, with an abundance to spare. And when it is remembered that the class you have assisted so efficiently during the past session in acquiring a knowledge of that most important branch of medicine—practical anatomy—is the largest ever assembled in America, or perhaps in the world, too much praise cannot be bestowed upon our "little Napoleon of the dissecting room."—(*Chicago Medical Journal*, May, 1867, p. 233.)

The same publication for March, 1867 (p. 139) contains an editorial from which we learn:

William Lewitt has been appointed Demonstrator of Anatomy in Rush Medical College. His qualifications for the post have been demonstrated before the great classes of the University of Michigan—his executive ability being sufficiently shown in the fact that he has annually supplied and directed the labors of over 100 dissecting classes. The dissecting rooms under his control have been models of neatness and order—it is safe to say, being in all respects, thus far, unsurpassed on the continent. An accurate and minute anatomist, a rapid and expert dissector, courteous and attentive to his classes, the College is to be congratulated upon its success in securing his services.

Moses Gunn was appointed successor to the lamented Brainard, in the Chair of Surgery at Rush Medical College, and in the News Items from the same journal, for May, 1867 (p. 24), we read that Prof. Gunn's office was in the McCormick Building (where the Apollo Theatre now stands), he will, "it is understood, confine his practice exclusively to surgery. Dr. Lewitt, the Demonstrator of the College, will be found at the same office and engage both in surgery and in general practice."

The case of megacolon which came under his

observation during his career at Ann Arbor, evidently was published not long after his arrival in his new home, to make himself better known to his professional colleagues.

AN EXPERIMENTAL STUDY OF ACUTE COCAINE POISONING, ITS PROPHYLAXIS AND TREATMENT*

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CHICAGO

While serious accidents with cocaine in local anesthesia induction are not frequent they still occur occasionally and may be expected so long as cocaine continues to be used as a local anesthetic.

In both man and laboratory animals death occurs through failure of the respiratory center after a period of clonic convulsions. This is proven by the fact that the heart continues to beat for some time after complete cessation of respiration.

Since the respiration fails first, it should be expected that artificial respiration would be indicated, but in our experience with the laboratory animals, the rabbit, cat, dog and monkey, only the rabbit is benefited by this method of treatment. In the more highly developed animals, such as the cat, dog and monkey, artificial respiration sufficed to prolong life for some time, sometimes several hours, but so far as we could determine the minimal lethal dose to these animals could not be raised by such a method of treatment.

Earlier investigators in this field have made the instructive observation that decortication, or even complete decerebration significantly raises the minimal fatal dosage of cocaine. This would lead one to suspect that respiratory failure was due in part to the indirect effects of cocaine on the motor cortex of the brain. Furthermore, it was observed that the higher the type of animal used, i. e., the more complex the brain becomes, the more susceptible is the animal to cocaine. These facts led us to attempt the use of hypnotic drugs and our choice was the barbituric acid series of compounds, particularly barbital or veronal. Chloral hydrate, morphin, ether and

*For the original papers on this subject see Tatum, Atkinson & Collins: *Jr. Pharm. & Exp. Therap.*, 1925, XXVI, 325. Tatum & Collins: *Archives of Int. Medicine*, 1926, (in press).

other depressants had been tried but without any significant curative value.

Our experience in the treatment of cocaine poisoned rabbits with barbital was somewhat successful but not so good as simple artificial respiration. We were able to raise the minimal lethal dosage of cocaine in the rabbit about one-third by the use of the intravenous injection of the soluble barbital-sodium. By simple artificial respiration the minimal lethal dose in the rabbit could be more than doubled.

Since artificial respiration alone was practically a useless method of treatment in the cat and dog poisoned by cocaine and knowing these animals to be of a higher type in which the brain apparently has a greater effect on medullary function, we were encouraged to try the treatment of cocaine poisoning in the dog by intravenous administration of barbital-sodium. We very soon saw that such a procedure was a good lead, the convulsions were immediately stopped and prospects for uneventful recovery were good. However, the anesthetic effect of the barbital lasted rather too long so that we reduced the amount of barbital at the same time adding paraldehyde. Experience with forty or fifty animals finally led us to use 100 mg. barbital-sodium per kilogram body weight dissolved in 5 c.c. of a saturated solution of paraldehyde in water per kilogram body weight. Such a solution is stable and may be kept on hand available for emergencies.

By such a method of treatment we were able to more than double the minimal fatal dose of cocaine in the dog. We furthermore observed that the longer the time the animal was permitted to convulse the greater the danger of failure in treatment. If the hypnotic were given before convulsions occurred the minimal lethal dose could be trebled.

Another point developed in the course of this work was, namely, that the hypnotic must be given in a quantity such as to prevent all evidences of cortical stimulation such as clonic convulsions and tremors. Running movements were often seen but these seemed to be quite different in significance from tremors or clonic convulsions and did not worry us. But tremors or clonic convulsions occurring after the hypnotic administration almost always meant death of the animal in a short time. Whether a second injection of hypnotic would be of value in such cases

we do not know but are inclined to think it would be useful.

Our next step in the study was the application of the hypnotic method of treatment of cocaine poisoning to the monkey, a still higher type of animal. Our results were exceedingly satisfactory. We were able to raise the minimal fatal dose of cocaine to something over three times and this even after a period of clonic convulsions lasting from one to five minutes. Convulsions *immediately* ceased at the intravenous injection of the barbital-paraldehyde solution. The dosage of hypnotic required for the monkey was about 70% that required by the dog. The depression lasts in the monkey from one to two hours, a time sufficient to permit of destruction or detoxication of the cocaine, at least, sufficiently to carry the animal past the danger period.

SUMMARY

1. Poisoning by subcutaneous injections of cocaine cause death by respiratory failure.
2. Artificial respiration is an effective treatment only in the rabbit, the lowest type of animal employed in this series. In the higher types—the cat, dog and monkey—artificial respiration was of no avail.
3. The intravenous injection of appropriate hypnotics such as our mixture of barbital-sodium and paraldehyde cause immediate cessation of convulsions.
4. Hypnotics must be given in such a quantity as to prevent any and all manifestations of cortical or clonic convulsions.
5. The longer the convulsions are allowed to continue before the administration of the hypnotics the greater is the danger of failure of the treatment, consequently the treatment should be instituted as soon as possible after clonic convulsions appear.
6. A prophylactic administration of the hypnotics raises the tolerance to the greatest extent.
7. Since the efficacy of the treatment parallels the increasing complexity or development of the brain in the series of animals employed, it should follow that man should be still more susceptible to this type of treatment. As to the dosage to be employed we can only guess. Our suggestion is to employ a dosage equal to or slightly larger than the usual standard hypnotic

dose. If this is insufficient to completely check the clonic convulsions a cautious increase in dosage would be indicated.

ARTHRITIS DEFORMANS

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It has seemed to me for several years that the chief obstacle to the development of a rational method of treatment for arthritis deformans, and perhaps one of the chief reasons for our lack of success in the treatment of many of these chronic forms of joint trouble, has been the fact that we have always looked upon chronic joints, so-called rheumatoid arthritis, arthritis deformans, osteo-arthritis, etc., as one group. We have *thought* of rheumatoid joints and rheumatism and rheumatic affections. It is not so very long ago that one of the common questions for us to ask each other was, "What do you do for rheumatic joints and chronic rheumatism?" Not long ago we used the term "malaria" as a convenient name for any form of fever in which we could make no definite diagnosis. Not until the micro-organism of malaria was differentiated and identified were we able to learn the etiology and use the name definitely. Now, when we say malaria, we mean something. And the same is true of the terms "rheumatism" or "rheumatoid." We have reached the point in pathological investigations where we differentiate between the different forms of arthritis well enough to allow us to restrict those terms to a definite *acute* type. Since Nichols and Richardson published their epoch-making article in 1910 in the *American Journal of Medical Research*, we have come to look upon chronic joints not as one group, but as composed of several groups. In their article they described two types, the degenerative and the hypertrophic, but later investigations have convinced us that the group which they describe as degenerative or proliferative arthritis contains two varieties. We now think of the pathology of three groups: First, the infectious group; second, the atrophic group, and third, the hypertrophic group.

Let us try for a moment to visualize a typical case of one of these three groups.

GROUP I—INFECTIOUS ARTHRITIS

In order to illustrate the pathology of this group we might cite a gonorrheal arthritis as a typical example of those infections which gradually become chronic. Most infectious joints are acute from the start. They may or may not be pyogenic in their development, but many of them are, and we may have a joint infection with an abscess in the joint cavity. We also have many infectious joints not of that type that begin sub-acutely and gradually develop into the chronic form. The patient will have one or two or three joints that are temporarily inflamed, red and swollen, etc., and they gradually decline and all symptoms focus upon one joint, usually within a month or so after the first onset of the trouble. So we must remember that in this form of arthritis the infection has a characteristically acute period with swelling and redness and a great deal of sensitiveness and pain. But that type of infection develops into a chronic joint, and sometimes the effects of a gonorrheal infection lasts many years and the patient has a joint that is sensitive, painful and disabled. You need not think of gonorrhea *only* as having these effects; there are other infections causing this form of arthritis, as infections of teeth, tonsils, gall-bladder, etc. We *do* see secondary infections of the joints which are chronic from the start, but in speaking of the infectious group of chronic arthritis we mean a joint which has been definitely infected with some micro-organisms, and we have learned that quite a large number of these begin as chronic infections. A patient with an infection of the teeth or of a sinus or of the gall-bladder, that he has carried with him for years, has developed a resistance to that toxemia, and when the toxemia finally affects his joints, his eye, or the nerve sheaths, it does so in a chronic manner, and he begins to complain of pain.

Let me emphasize that in the acutely infectious group the characteristic feature is that sometime during the infection there is an acute period becoming chronic, and the pathology is confined to the peri-articular structures rather than the synovial surfaces. The bone is not involved. This sets that group aside.

GROUP II—ATROPHIC ARTHRITIS

Picture to yourselves one of these cases of chronic arthritis which we see so frequently in

thin, poorly nourished women between the ages of 25 and 40. The process begins in the joints of the hand or in the toes, gradually affecting the elbows or shoulders or knees or hips or spine. Sometimes two or three joints are affected, sometimes all of the joints are affected, and sometimes only one joint is affected. But the process is the same, and it is characteristically this: In the pathology of an atrophic type of arthritis we have a gradual atrophy. The synovia and articular surfaces are attacked a little, adhesions take place between the synovial membrane and the capsule and the edges of the cartilage, and as the process goes on the joints become distorted, painful and immobile, and the x-ray shows that the ends of the bones have faded away as the result of insufficient nourishment. We do not know of any better reason to account for it. The trouble begins as a chronic affair.

These patients have sore, inflamed joints; they are worse at times than they are at others, as gradually one joint, then another, becomes involved. Yesterday I saw at Salt Lake City a healthy looking young woman who had three knuckle joints on one hand and two on the other that were involved. During the last year she had developed a characteristic atrophic arthritis of the knee and now of the ankle and foot, and she is walking about some and doing household duties. The joints first affected have slowly become more and more disabled, but they are now much less painful than they formerly were. And that is true in all these cases. As time goes on the joint becomes less mobile and the pain becomes less.

The characteristic of the atrophic group is that the patient shows signs of atrophy everywhere—the hair, the teeth, the bones, the muscles, are all atrophic. We see cases in which the feet and ankles and perhaps the hands are covered with herpes, recurring blisters which cannot be healed up. The nails get all out of shape and thickened like the nails of a senile patient. The evidences of atrophy are also seen in x-rays of the bones. They show a distinct lack of density. In this form of the disease the interior of the joint may not be so badly affected as in the infectious type, which is sure to get stiff, but the bone shows a great deal more destruction or atrophy, and gradually the articular surfaces become destroyed, adhesions take place, and the joint becomes stiff.

The atrophic group is coming to be sharply differentiated in very large measure, indeed. Do not understand me that the differentiation is so sharp that you can say, "This is infectious arthritis, this atrophic arthritis, and this the hypertrophic type of the disease." I am simply trying to get into your mind a *typical* case which can be *easily* differentiated.

GROUP III—HYPERTROPHIC ARTHRITIS

While the atrophic type of arthritis is usually polyarticular, the hypertrophic group is usually monarticular. While the hypertrophic arthritis occurs more frequently in early middle age and more frequently in women than in men, the other form occurs more frequently in later life and affects men quite as much as women. In the atrophic group we have atrophy, in the hypertrophic group we have hypertrophy, a very marked production of new bone around the edges of the joint, but, with atrophy and absorption of bone at weight-bearing points.

The hip is one of the joints most frequently affected with the hypertrophic type of the disease. We find that the head of the femur has become smoothed off and flattened, and the top of it is quite free from cartilage and as hard as a billiard ball, and around the edges of the neck and acetabulum are growths of new bone. In this hypertrophic group, and also in the infectious group, we have a distinct exudate into the tissues. If a man comes limping into your office and says, "I have a bad hip that has been bothering me for three or four months, it is getting worse and I cannot work," strip him, take hold of both hips together and get the trochanters in your hands and see how much more exudate you have in one hand than in the other. There is an increase of bone and usually a little increase in the tension of the joint, not much. It is in the infectious group that we find a joint usually filling up with fluid, although the atrophic group usually has an acute period with effusion into the joints.

Etiology—We have found that the symptomatology and pathology in these three groups are different; why should we go on thinking that the etiology is the same? I don't believe it is. It would be useless for me to go into the discussion of focal infections as the cause of chronic arthritis. I have said that in my opinion many of the infectious group are due to focal

infections somewhere in the body. I believe that the atrophic type is not due so much to infections as it is to a disturbance of the chemistry and the metabolism of the body, and very likely it is due to disfunction of some of the endocrine glands. We are coming to think so for the reason that the atrophy is so general, and also because in a few cases we have found that the exhibition of endocrine gland substance in the way of medication is helpful. But in the hypertrophic type we have a rather local process. It might be that the upper end or the lower end of the spine is involved, or the entire spine might be involved, but it is more likely to be one joint or a few joints. I have seen some cases in which the hips were involved, perhaps the shoulder, the knee and ankle, but in the majority of cases *one* joint only is involved. It is chronic from the start, it rarely has any acute periods. The pathology involves the bone not in an atrophic way, but in a proliferative way. We have new bone produced instead of absorption and destruction of the original bone, but bear in mind that absorption does take place in the cartilage where weight-bearing occurs—in the hip, knee and ankle, but the *bone* increases.

Treatment—The treatment can be summed up in a few words. Taking the three groups that we have discussed, in a case of chronic arthritis you should if possible satisfy yourself that the joint has been infected, and, by the way, it is very difficult to identify micro-organisms in these cases. Several years ago Billings and Irons claimed to have isolated certain micro-organisms in joint cases, but that is a disputed point, as many investigators have failed to find bacteria in these joints. In the acute group the indications are to relieve the patient of his symptoms and give him a better joint, or at least a comfortable joint, as quickly as possible. Now, I am coming back to where I started. The reason that so many of these chronic infectious joints—taking gonorrhea as an example—remain chronic joints is because they are not given a chance to get well. If these joints, as soon as they are identified, are immobilized, the pain will very promptly subside and the joint slowly recover. Many of these joint cases say, "I am perfectly comfortable when sitting, but when I move around it hurts me so I have to use a cane, and I limp all the time." When such a case comes under our observation we put the patient to bed,

as absolute rest is the best indication. If a joint is painful, it is surrounded with fomentations, with heavy flannels wrung out of hot water. You may use dry heat if you prefer, but in my experience in a long series of these cases moist heat is much more efficacious and much more agreeable to the patient. So we put the patient to bed and apply hot fomentations, keeping them on from nine in the morning till nine at night, and then the joint is thoroughly dried off and surrounded with dry flannels and an electric pad, or perhaps a hot water bottle is placed next the flannel to keep it hot during the night. If there is any deformity the joint is very gently straightened out with traction. If the hip is involved, the leg is put up on an inclined plane, and traction is made in the long axis of the leg, and then the inclined plane is slowly lowered as the symptoms subside. We put on sufficient traction to secure relaxation of the muscles in order that we may stop the everlasting stiffness which occurs from trying to hold the joint still. When the patient is comfortable and the joint is in the best possible position for future use, it is immobilized, usually by plaster of paris. I like plaster of paris because I can use it more effectively than splints. A great objection to splints is that the patient can tamper with them himself if not comfortable, while if plaster is applied he is not likely to disturb it. Then he is allowed up on crutches, but not allowed to put any weight on that joint until it is well. The reason so many of these joints continue to be chronic for months and years is because the motion is not sufficiently restricted to give the joint a chance to get well.

It is safe to say that 80 per cent of these infectious cases get well with a stiff joint, and for that reason it is necessary to put the limb in the position of greatest use. We flex the hip and knee a little if we expect the hip to become stiff, and we abduct it so that when he walks he will put that foot to the ground and adduct the other leg. He will then not have so marked a limp. All those factors are features we must bear in mind.

How long shall we immobilize the joint? Until it is well. I am speaking now of the infectious type only. In regard to medicines, I do not know of any that has been of use to me except aspirin. During the painful period I give the patient aspirin and always give as much bi-

carbonate of soda—if ten grains of one, then ten grains of the other. This prevents the gastric symptoms and distress the patient would otherwise have. Two doses of aspirin, one in the morning and one in the evening, will keep the joints comfortable. The drug is not habit forming and it apparently has no ill effect upon the system. It is the most harmless of anything I know of that can be used for that purpose.

Within the past two years several orthopedic clinics in Vienna and Berlin have been using a new organic iodine compound known as Mirion. Little or nothing has appeared in the English literature regarding it, but numerous reports of experiments with groups of arthritis of all types have been made by the various clinics. All report improvement in a large percentage of the cases, which seems more rapid than has been observed before its use. A few complete cures are reported following from six to ten injections. The Mirion is used by deep intra-muscular injections, beginning with 3 c.c. and increasing to 5 c.c. It can now be obtained in this country at several pharmacists. I have begun its use in a small series of three cases, but it is too early to report results.

Coming to the atrophic type, the multiple type, in which the patient's nourishment is poor, we usually find the alkalinity of the blood low, the urinary acidity high. Those patients have hyper-acidity of the system, the perspiration is highly acid, and often the saliva as well. The treatment of that group is practically the same as in the first, as far as relief of pain and deformity are concerned, but in addition we try to reduce the general hyperacidity and increase the patient's nourishment. There are two very efficient ways of reducing hyperacidity. One is to give the patient hot vapor baths, such as Turkish baths or cabinet baths—anything to make him perspire profusely for half or three-quarters of an hour each day. This will reduce the acidity, but it is weakening and cannot be kept up indefinitely. The next way is to give fruit juices in the diet. If you feed fruit long enough the whole system will become alkalized; with the fruit, we give vegetables. In most cases the acidity is relieved. There is another peculiar thing. You may examine a patient today for indican and not find a trace, and tomorrow it may be very abundant. I do not know why this is. In some cases there is ptosis or a dilated

cecum. It is probable that the absorption from the intestines in those cases is very great, but it varies from day to day, so when you examine today and do not find indican, examine every other day and you may find it, and when you do find indican, it is a token of proteid decomposition in the intestines. I have become convinced that there is a great percentage of affected joints, and especially in the infectious and atrophic groups, that may be laid to intestinal toxemias rather than to infections. Goldthwait, Osgood and Swaim of Boston have been working on this subject for a number of years and all are convinced, as I am, that very large numbers of these chronic joints are due to intestinal toxemias. In the atrophic group particularly, the theory of bacterial infection in the joint has been tried out for so long that it practically has been decided that in these cases bacteria cannot be found. I hope that someone may find the cause of the atrophic type of the disease, because so far as prognosis is concerned it is the most hopeless of the three groups I have described.

In cases in which the acidity of the urine is high and the perspiration is acid, and there is no indican, I cut down the starches and give meats. But in cases where there is a distinct indicanuria we give fruit, vegetables and cereals, and no proteids except cottage cheese and buttermilk.

There is one caution I want to mention in regard to immobilization of the atrophic type. If the immobilization is continued too long, you may lose the benefit of what motion the patient has. Frequently the individual with atrophic arthritis will have sufficient motion so that he can make considerable use of the arm, so we immobilize the joint only long enough to get rid of the pain and tenderness. When these symptoms are gone I send him to the physiotherapist for massage. I am convinced that we get some improvement in those cases from that routine. But when we come to the hypertrophic type, I immobilize the joint until it is well. I have no fear of stiffening in those joints if I am sure of my diagnosis, and it is not an atrophic joint. My only fear is that we allow the patient to move the joint too soon. And along with the heat and the immobilization, the correction of deformity, etc., in the hypertrophic group I use diathermy. Many of the hypertrophic cases seem to improve more with dia-

thermy, and it certainly adds much to the comfort of the patient. A painful joint after half an hour's treatment with diathermy will be free from pain for the rest of the day, perhaps for more than one day. Along with all this, attention is paid to elimination in every way.

The atrophic type is not only atrophic, but, as I have said, there is some interference with the metabolism. We find in most cases that the metabolic index is very low. After making three or four tests for the total metabolism we find that the patient never gets the index up anywhere near normal. In those cases we have given thyroid extract, at first $\frac{1}{2}$ grain daily, and finally one grain three times a day. At the present time I have under observation a patient who was given so much thyroid that her nervous system was all upset and she could not get the benefit of her food.

To sum up: Rest is most important. To relieve the pain and sensitiveness, heat is applied to lessen muscular spasm, and traction is put on to correct deformity. People ask how much weight I put on. I put on as much weight as the patient wants. I leave it to the patient because the weight should not be so great as to be uncomfortable. When the patient says, "I don't feel that weight," put on more; when he says that it makes him ache, I take off some. You will have to be guided by the patient's comfort. Then comes immobilization by some means. If you are skilful in the application of splints, use the splints; if you are more skilful in the use of plaster, use plaster.

If a joint in the lower limb is involved, the patient is not allowed to put weight on it. A block two inches high is put under the other foot and crutches are used. In those cases in which heliotherapy can be used the patient is given two or three hours of exposure each day, and in some cases nearly all day. I believe sunlight is more beneficial than quartz lamps or any artificial light. The patient must be built up with food as rapidly as possible, and what you give for food depends on what you find by laboratory examinations. In the hypertrophic types we expect that the patient will have a useful joint, but motion will be limited and the mischief which has already taken place in the joint cannot be undone.

In this short article I have tried to emphasize in a brief way the features which are beginning

to dominate us in our treatment: First, differentiation of the various groups of arthritis, then treatment according to the pathology.

THE PRINCIPLES OF PHYSIOLOGY SHOULD GOVERN CASUALTY SURGERY*

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CHICAGO

When more attention is given to the study of certain principles of normal and pathologic physiology, there will undoubtedly be many changes in our present day methods of dealing with the problems of casualty surgery. The physiologists have made many advances in unfolding the intricacies of Nature's defensive and reparative processes. The surgeons must be quick to utilize this knowledge if they too are to make progress.

In a recent article (Ann. Surg., 1925, Vol. 82, P. 540), Yates, of Milwaukee, said, "Means to fulfill therapeutic requirements and to meet economic demands can be developed by adapting practices to conform more directly with natural methods that foster the resistance, defense, growth and repair of bones." What he has so concisely said of bones may as truly be said of other tissues of the body.

The incentive for this attempt to correlate our practices with physiologic tissue activities is derived from observations made in the supervision of some 20,000 dressings and treatments given during the last year to patients of one of our larger Casualty Associations, and from similar cases observed in the surgical wards of Cook County Hospital. The opportunity of observing so large a group of closely related injuries should stimulate one to investigate more thoroughly the forces which govern the convalescence of these injured persons. We, who deal with this field of emergency surgery, should be exceedingly careful to use every means to hasten the convalescence of our patients and to simplify our technic to those therapeutic practices which have proven value. For the most part we must place our hopes in that plan of management which is based upon an understanding of the physiological forces which are active

*Read before the Chicago Northwestern Railway Association, Dec. 16, 1925.

in the defensive and reparative processes in all normal individuals.

Let us first consider the value of the various antiseptics and germicides used to sterilize skin areas and the similar use of various chemical solutions and dyes in wounds.

There is much room for honest investigation of the merits of many of the advertised solutions now being recommended to the profession. Tinker and Sutton have recently carried on a series of experiments which should interest all. They concluded from their work that no single antiseptic can be depended upon to render a skin field sterile. This failure is to be attributed to the selective action of the various antiseptics. If one could know before hand just what organisms contaminated a given field one might so prescribe his topical applications that each strain of organism would be at the mercy of its germicidal affinity. These facts bring one to the conclusion that skin and wound sterilization is a relative affair, rarely absolute, and, if absolute in any instance, it is so more by chance than by design.

What use may we make of the preceding discussion? The normal skin is a protective covering of the body and its powers of resistance admit of its being subjected to the action of chemicals which other tissues of the body cannot tolerate. We may, therefore, indulge our personal selection of any one of the multicolored chemical solutions and dyes now in use with the mental reservation that we are lessening the chances of infection but not absolutely sterilizing the skin field.

When we deal with wounds of the soft tissues, we have quite a different problem, since we have easily assailable tissue and not the hardy protective skin elements exposed to the action of the topical applications. For my part, I am unalterably opposed to the use of any germicidal or antiseptic solution in the recent wound itself.

The practice in my service has been as follows:

1. Remove all foreign material that can be picked out with tissue forceps or sponges.
2. Clip away or dissect out all tissue that appears likely to be devitalized.
3. Secure hemostasis.

From my observation the following factors are probably the most constant in inducing and

favoring infection in the ordinary casualty wounds:

1. Devitalized tissue allowed to remain in the wound.
2. Introduction of antiseptics and germicides which are meant to destroy organisms but usually destroy surface cells throughout the entire wound and enormously increase the quantity of devitalized tissue within the wound confines.
3. Hemostasis is secured by careless crushing of much tissue other than the blood vessel wall.
4. Much foreign material in the form of heavy ligatures is introduced.
5. Suturing the wound is improperly done. The sutures are nearly always too numerous and are tied so tightly that the intervening tissue is strangulated and the wound secretions are prevented from escaping.

My next problem concerns the use of hot dressings applied to body surfaces.

The correct use of hot dressings has for some time been a question in my mind. I have no particularly revolutionary thoughts towards this time-honored practice, still there is to my mind much abuse of this procedure. I am quite certain that I see daily instances where the prolonged and thoughtless use of hot dressings has resulted in a delayed convalescence and unnecessary morbidity. Let us for the sake of clearness understand what we hope for in selecting hot moist dressings in a given case. The heat we desire because it favors hyperemia. Dilatation of the capillary bed is probably the most important reaction and if we analyze this phenomenon, we support this dilatation as being an artificial reaction comparable to that produced by nature in the first stage of inflammation. Hyperemia has as its by-activities slowing of the blood stream, at least temporarily, migration of leucocytes and escape of plastic exudate into the surrounding tissues. Our purpose in its production is, therefore, to anticipate and abet the usual reactions of tissues to infection.

Now let us understand just how far we are to carry this abetment by hyperemia. Is it possible to prolong this phase to the point where it becomes an actual hindrance? My conclusion from observations of a large series of cases is that a very considerable number of those treated by the hot dressing method are carried to the point where actual harm is done. When the

capillary bed has dilated, the leucocytes and other phagocytic cells have passed into the tissue, when the plastic exudate has filtered into the surrounding tissue until it is tense and firm, and the tissue or fixed cells have begun their reactive proliferation, then it is time to dispense with our hot dressings. In the majority of cases this phase is reached in 24 hours, in a few it may require 48 hours, but it rarely is of any aid after this time. What harm can come if hot dressings are continued? The most potent factor for harm is the increasing exudation, which, if allowed to continue, not only produces stagnation in the more compressible venules, but eventually leads to an ischemia due to compression of the arterioles.

Another condition that has struck me in these cases is the use of hot dressings in open draining suppurative lesions. If our knowledge of pathologic physiology is correct, we cannot defend this management. Many times we have seen the skin macerated, even blistered, for this edematous tissue is much lowered in resistance and in spite of our antiseptic boric solution, there have appeared multiple infected hair follicles and even small furuncles. I have seen many times acute lymphangitis begin in these new areas and spread to the popliteal, inguinal, cubital and axillary glands and produce adenitis, cellulitis, even severe septicemia.

Another calamity may be partially attributed to improper or ill-advised use of hot dressings. This is the frequent crippling seen in hands which have been incased for long periods in hot dressings. The wrists are allowed to assume a palmar flexed attitude with the thumb closely adducted. This position, if allowed to persist for any length of time, results in a very unsatisfactory hand so far as function is concerned. If hot dressings are to be used in these hand infections, the hand must be put up in a position, which, even though a partial anklyosis results, will give a fairly useful member. This can be done by putting it up in a dorsal flexion of the wrist with the thumb abducted and rotated inward. Kanavel recently called attention to this particular condition.

My point in this discussion is to warn those who are unfamiliar with the damage that may result from injudicious use of hot dressings and to again remind those who are quite familiar with this subject that the use of hot dressings

is not a matter to be placed in the hands of internes and nurses. Give it your attention and study your results.

I have one more point in mind which has given me much concern during the last year. The concluding question relates to the management of fractures of the extremities, especially the forearm and hand and the lower leg and foot. I speak of these specific locations because it is fractures here that are producing the greatest avoidable economic and functional losses. It is impossible to accurately estimate the avoidable loss of function sustained by individuals suffering from the above mentioned types of fractures as a result of failure by those treating such cases to take advantage of natural physiologic aids to the repair and restoration of function.

There are innumerable crimes of treatment committed under the guise of immobilization. This is especially true of the prolonged immobilization of typical Colles' fracture of the radius, longitudinal fractures of the tibia involving the ankle joint, and fractures of the bones of the foot. In the majority of the above mentioned fractures, if good reduction is secured, there is little if any need for fixation. There is still less need for excessive passive motion. Non-painful active motion is most desired. Sir John O'Connor warns against the excessive use of passive motion in fractures involving joints. His own words are most expressive: "The most insuperable cases to tackle were intra-articular fractures of the elbow and knee joints in which callus formation—often stimulated by what I have termed the 'damnation movement' of joints—had run riot with erection of boney buttresses which nothing less than excision of the joint could shift."

Without going into a detailed discussion of the treatment of fractures, I am anxious to again remind you of several physiologic principles which must never be lost sight of when the treatment of fractures falls to your lot.

Wolf's law is a physiological reaction occurring in bones in response to functional requirements. Many apparently atrocious results, as evidenced by the x-ray, have finally shaped themselves into excellent functional results due to the natural adaptive and restorative processes inherent in our skeletal system. Make use of this knowledge and extend the limits of your early

active motion in those fractures where there is little tendency to recurrent displacement of fragments.

In my experience the disability in fractures about the wrist has been prolonged, not because of pain nor stiffness of the wrist, but from stiffness and functional weakness of the fingers.

The final suggestion which may be of interest to us concerns the circulation in injured extremities which are immobilized in casts and then kept elevated. This discussion relates particularly to fractures of the lower leg and ankle. I feel that union is many times greatly delayed by keeping these patients in bed with their limbs resting on a pillow or suspended. There can be no comparison between the amount of circulation induced in an extremity by physiologic activity and that produced by position or station, however, there is much to be gained in establishing the circulation and lessening edema by early dependency of the injured member. The patient, as a rule, complains of the swelling and discomfort at first, but soon realizes that this primary swelling lessens with each successive lowering of the limb, finally becoming negligible. This dependent position with active motion as the case permits will greatly diminish the time required in the post immobilization convalescence.

My conclusions are:

1. We may well give more thought to physiology in planning our treatments.
2. Be guided by results rather than by glowing reports from others.
3. Natural physiologic processes are still the greatest of all defensive, reparative and reproductive forces.

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THE POST-MATURE CHILD

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"There is no such thing as a post-mature child." We have all heard this declaration and many of us have received it as a portion of the true faith. But with experience comes doubt and investigation. How is it that the period of gestation is so often prolonged? You have miscounted, is the obvious reply. But why then is the child so large? Why does it look so old? Is the uterus an organ of rigorous and peremp-

tory function like the heart, or is it subject like the intestine to many anomalous interferences which retard or accelerate its activities? What is maturity, and what is post-maturity? These questions press for solution.

Maturity may be defined provisionally as that state or degree of development which enables the fetus to surmount successfully the perils and aggressions of extrauterine life. We may add also that a mature fetus must show the evidence of a certain physical endowment as revealed in the length and size of the body as well as in the head diameters. Without dwelling tediously upon the authorities which are accessible to you all we may set forth the almost unanimous opinion that mature babes must measure from 48 to 53 cm. in length, weigh from 5 to 9 pounds, and measure from 8.5 to 10 cm. in the biparietal and from 10 to 12 cm. in the occipito-frontal diameters of the head.

The term "post-mature" is not common in our literature and yet it is reasonable to assume that any babe which exceeds the maximum limits just given should be called post-mature just as one which did not reach the lower boundary should be and is called premature.

The post-mature child therefore is a large child but it is a child which has attained its overgrowth through detention in the uterus after it has become mature.

If we admit these definitions we must also accept the principle that a post-mature child is abnormal and, therefore, a proper subject for obstetrical study and possible regulation.

May we now go a step further and assert that a large child, a child over nine pounds, a post-mature child if you please, although a source of pride to the parents should by that same token be a reproach to the obstetrician.

It is a source of pride to the parents partly through tradition and partly through the comfortable but, as we believe, the erroneous opinion that such a child has a better start in life. The obstetrician also is gratified since in his heart he realizes that he has gambled for a great prize and the cards have fallen favorably for him. He knows only too well the dangers to which both the mother and child have been exposed and justly he congratulates himself upon their escape.

He is familiar with the prolongation of labor which these large babies exact and the conse-

quent strain on the fortitude and physical endurance of the mother. He recalls cases also in which the uterus is overdistended, the pains weak and shallow or, if strong, where the membranes rupture prematurely and a dry birth succeeds. He may remember cases where the large, firm head did not easily mould or engage and when



Fig. 1. The McDonald Maneuver. From the upper border of symphysis to highest point of fundus. The tape at fundus does not follow down into depression but is held even with the upper rim of fundus.

finally forced through the brim the soft parts were overwhelmed and the ultimate delivery, whether spontaneous or, as more commonly happens instrumental, was accompanied by extensive trauma and lacerations. Fistulae from the pressure of the large slow moving head are not unusual and maternal fatalities must be expected to develop out of the long labor either from infection, hemorrhage, or the extensive and violent instrumentation.

The child also is endangered by the relative shrinkage in the blood supply, by strangulation at the vulva or by the prolonged cerebral compression. Asphyxia, intra-cranial hemorrhages, skull fractures and paralyses are always near, while craniotomy and evisceration are not far removed.

These catastrophies do not depend so much upon the mere weight of the child as upon the inordinate volume in which the parents take pride. It is this bulk which retards progress. It is the firmness and solidity of the post-mature head which prevents moulding and delays en-

gement. It is the greatness of the mass which overdistends the parturient passage and compels the maternal morbidity or the fetal fatality.

And to what purpose? Does the unusual size of the child betoken a better inheritance or a more favorable entry upon life? It does not seem so, for the extra weight is rapidly lost. A babe of nine or more pounds will lose from one to three of those pounds in the first three days post partum, while a seven and a half pound babe will lose regularly about nine ounces and rarely more than fourteen in the same length of time. This means that the overgrown child at the first opportunity simply squeezes out the fluid and fat cells which have been stored up from lack of opportunity to expend them. Maturity comes to the child *in utero* just as it comes to the adult and during a protracted uterine life the nutritional impulse exceeds the expenditure and in consequence the tissues are distended with fat and fluid which serve only to clog the organs, impede the vital functions and jeopardize the delivery. As soon however, as the child is born the conditions of post-maturity no longer



Fig. 2. The Perret Maneuver. The poles of the head are found by the fingers and the perimeter applied by assistant.

fetter the physiology. The tissues relieve themselves of their unnatural burden and return to normal. The child "cures" itself of its excessive obesity by rapid shrinkage and a typical healthy existence begins.

Now note, please, that we do not claim that all babes of nine pounds or more are post-

mature. By no means. But it will be well to recall that according to v. Winckel, three-quarters (74.8%) of these heavy babes have passed the estimated dates of their individual maturity. Such date of course may not coincide with the date estimated as proper for their delivery for some babes mature early and others



Fig. 3. Ahlfeld Maneuver. One tip of perimeter on upper pole of child. The other inside the vulvar slit is pushed up until it impinges on upper border of symphysis.

late. The factors of fetal nutrition are extremely important in this connection as well as the potentials of heredity and in many cases the unexplainable prolongation of pregnancy. Whatever the cause, the man who regularly measures his babies will often find one which is more mature at the eighth month than another at the ninth or tenth. Many of us can recall cases in which a four-pound babe has been born long after the date set for the confinement and another of eight and a half or nine pounds which was at least three weeks before the calculated time.

With all the time, energy and talent which has been devoted to the problem we do not yet know the exact duration of human gestation. Nor are we likely to answer this question until we can determine the moment when fertilization of the ovule occurs or the division of the nucleus begins.

We have learned that spermatozoa may remain active and potent in the congenial environment of the female mucosa for at least three to

seven days and we know that conception may occur as well before the first period missed as after the last one present. The whole of our knowledge however comes finally to this, that the human female requires about 275 days for gestation with an upper and lower limit of 321 and 268 days respectively. This irregularity doubtless provides an ample latitude for the acquisition of maturity in a majority of the babes but it also produces a definite percentage which go over time. Parvin thought this number would reach 6 or 8 per cent. That is to say, the pregnancy is prolonged and the fetus becomes post-mature once in approximately fourteen cases. Whether the onset of labor be determined by accident, or through the influence of a placental principle, or in consequence of impulses from the endocrine glands, we do not know. We do know that the event, when left to nature, is a matter of extreme uncertainty. The long retention of a lithopedion in some instances, the more frequent imprisonment of the living fetus beyond the average term as well as the occasional but undoubted occurrence of premature labor all indicate that muscular irritability is a factor but also that the uterus has a tendency to functionate just as readily by caprice as by card.

If we admit, however, the existence of post-maturity and the possible perils, what are we to do about it? Can we determine the presence of maturity or post-maturity and should our interference, if indicated, be prophylactic or decisive, expectant or resolute?

To be sure, the boundary which we have set between what is generally accepted as normal and what we have assumed to be pathological is purely arbitrary, but possibly if we clash together a few of our reasons we may be able to establish a plausible proposition.

In the agricultural districts where the writer was reared it was customary to estimate the degree of ripeness of the fruit by its size and condition rather than by the time it had hung upon the parent stem. Does it seem irrational to determine the maturity of the human fruit by the same unequivocal test? But can we do this? Have we any reliable methods of measurement and definite standards of comparison?

According to our definition the maturity of the fetus is represented by certain physical conditions which, when present indicate that the purpose of gestation has been fulfilled. These

beacons, as we have stated, are the length, the weight and the fetal head diameters.

When we took our academic work we were shown in a more or less perfunctory way how to take the measurements of the pelvis but we were not taught to measure the babe and in fact were assured that this feat was impossible. In other words, we were sent to the firing line with a rifle whose calibre was approximately known and with a heterogeneous assortment of cartridges of no certain or even ascertainable dimensions. They might fit or they might not. If they did, the problem was solved to the gratification of the parents but if they did not fit the resulting disaster was accepted as the act of Providence.

However times have changed and while it is not generally known, or taught, it is none the less a fact that at present we may determine with extraordinary accuracy the size of the projectile which is to pass a human canal of any appreciable size. In fact we can measure the length and the size of the child and the diameters of the head with *more* certainty than we can measure the pelvis. It follows that a diagnosis of fetal maturity can be definitely assured and this knowledge can be used under all circumstances as a safer and more reliable basis for the estimation of the proper date of confinement than the irresponsible menstrual history or a carefully observed date of quickening. The diagnosis will rest upon measurements made by the McDonald, the Perret and the Ahlfeld methods, all of which are easily learned, readily practiced and highly dependable. Furthermore these procedures are a delightful adjunct to our art, for when the final measurements are made, and recorded on the day of confinement we have only to await the termination of the case to verify the correctness of our technic.

The length of the babe is obtained by Ahlfeld's procedure which has long been known but rarely practiced as a routine, and seldom or never taught. One tip of the pelvimeter is placed upon the upper pole of the child and the other upon the upper border of the symphysis, inside the vulver slit, which is uplifted to the height of the osseous border. From the reading thus obtained we deduct 2 cm. to allow for the thickness of the abdominal wall and multiply the result by 2. This is the length of the child in centimeters.

In our experience the post partum figures

tallied exactly with the ante partum estimate in 37 per cent. The variation was 0.5 cm. in 24 per cent. and less than 1.5 cm. in 29 per cent. Thus in 90 per cent. of our cases the error was inconsiderable.

The size of the uterus in reality designates and sets forth the size of the child. By Spiegelburg's figures the fundus must extend 34.5 cm. above the symphysis when the babe is mature. McDonald found that a mature fetus required a uterus whose fundus would extend 35 cm. above the upper border of the symphysis. McDonald's measurement is made with a tape from the upper border of the symphysis along the convexity of the abdomen to a point even with but not extending down into the depression above the fundus.

The child grows at the rate of 0.75 cm. in length and $\frac{3}{4}$ -pound in weight per week as an average, so it is easy to figure by this method not only the maturity of the child but the proper date of confinement. We found this procedure to be extremely reliable. McDonald also uses this means to determine the month of the pregnancy. He divides the height of the fundus obtained as above in centimeters by 3.5 and the result is the month and its fraction of the gestation.

The problem of the fetal head diameters is one of absorbing interest. Only two, of course, are possible, the occipitofrontal and the biparietal, but fortunately these are the ones most needed. They are obtained by Perret's maneuver. Thus the occipitofrontal is measured as it lies more or less transversely across the inlet *without making any allowance for the thickness of the abdominal walls*. From this result the biparietal is estimated by a system of deductions according to a scale suggested by Perret and elaborated by Stone, McDonald and Reed. If the occipitofrontal measures 12 cm., for instance, 2.5 cm. is deducted to get the biparietal. From 11.5 cm. occipitofrontal we take 2.25 cm., from 11.25 we take 2 cm. and from 10.0 to 11.0 cm. we take .5 cm. to get the biparietal. We used this scale successfully for several years and then O'Keefe of Kansas City devised a simple formula which he expressed thus

$$\frac{OF + 7}{2} = BP.$$

2

It is delightfully accurate.

In our series the post partum measurement of the occipitofrontal tallied exactly with the ante partum estimate in 40 per cent. The variation was 0.25 cm. or less, in 34 per cent., and within 0.5 cm. in 24 per cent. and erred by 1 cm. in but 4 per cent. of the cases.

The biparietals obtained from the above occipitofrontals were found post partum to be exact in 36 per cent., within 0.25 cm. in 31.7 per cent. within 0.5 cm. in 24 per cent., and to vary by 1 cm. in but 6.5 per cent. of the cases.

It is obvious that these differences are too slight to affect the diagnosis to a detrimental degree. Our tests are fallacious and unsatisfactory in cases of hydramnion and extreme obesity but on the other hand twins and lightening can often be recognized when the tape is regularly employed.

We have at our command, then, the means of measuring both the size of the pelvis and of the body which is to pass through it. Experience has shown only too often that the delivery of an oversized babe is associated with peculiar dangers both to the mother and child and we believe these hazards should be and can be avoided. We are convinced that the additional weight of the child is in no way an advantage but regularly a detriment in the delivery.

Our knowledge at present sustains the belief that the onset of labor is wholly accidental and while it may occur two weeks ahead of the estimated date without unusual danger to the mother or child yet postponement of delivery until two weeks after the maturity of the child may be the cause of serious complications.

The logic of our position demands that the pregnancy be watched carefully and the fetus measured at frequent intervals during the last weeks. If the maturity of the child is beyond question the pregnancy should not be allowed to continue indefinitely. The purpose of gestation we must admit is the production of a mature child and when this is accomplished the normal end of pregnancy is attained. The further retention of the fetus is no longer profitable and rarely permissible.

Termination of the pregnancy can be easily and safely brought about whenever the fetal maturity is assured. It is true that the interruption of the pregnancy, even at term, is a violation of our cherished traditions but admitting its sacriligious aspect we do nevertheless main-

tain its legitimacy. We do not wish to become more dramatic but more careful—we do not wish to complicate our technic but rather to simplify it by intelligent examination. We merely propose a new indication for the induction of labor, an indication based on painstaking observation and a high consideration for the welfare of the mother and child.

To those who are accustomed to stimulate a sluggish bowel it will not seem unreasonable to inaugurate the contractions in a dilatory uterus and those who recognize the desirability of opening appendiceal abscesses are already convinced that it is safer to guide and control the phenomena of the body than to await the haphazard and often misdirected operations of nature.

Such a management of a case requires more skill, more care and a higher responsibility. But no man who realizes the gravity of the problem can be content to allow his reason to be thwarted and his patients endangered through the whims and caprices of an unintelligent hollow viscus.

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COMMON ERRORS IN THE CARE OF INFANTS

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I am prompted to prepare this paper by the frequent encounter in private and dispensary practice of many simple but flagrant procedures indulged in in the care of infants and children.

1. *Washing the Baby's Mouth*—Washing the baby's mouth is an old-fashioned idea brought down from past generations and is entirely improper. Why should a baby's mouth be washed? Are there recesses in the infant's mouth where food may lodge, undergo putrefaction and bring about pathologic processes as occurs in the adult? The answer to this is, "No." The mother may wash the baby's mouth either because her family physician tells her to or her mother advises her that it is the proper procedure or she notices a thin white coating on the tongue after the ingestion of milk. What happens to the mucous membrane when the mouth is cleansed with the usual boric acid solution swab? The external layers of the oral mucosa are rubbed off more and more each time. The more the mucous membrane is denuded the greater is the amount of milk ac-

cumulation on the roughened tongue and the more vigorous becomes the cleansing. An avenue of infection is opened by the lack of the protective outer layer of the mucous membrane.

It is seldom that we observe a case of thrush or ulcerative stomatitis in an infant whose mother has not been over-indulgent in the mouth hygiene of her offspring. The inevitable answer to the question of mouth cleansing directed to a thrush-infected infant's mother is, "Why, yes, Doctor, I wash the baby's mouth every time I bathe him," this after she has been apparently insulted by the question as to whether she ever washed the baby's mouth.

An infant's mouth should not be washed, and if there is a small amount of white accumulation on the tongue after nursing, water may be given to remove this material or it may be left alone without detriment to anything but the mother's pride.

After the thrush develops in the wake of over-zealous hygiene, cleansing of the mouth with sodium borate in glycerine or touching up of the lesions with silver nitrate is necessary, but the applications must be very gentle, for vigorous rubbing will further denude the mucous surface.

2. *Treatment of Colds*—Treatment of "colds" by the customary initial dose of cathartic is an incorrect procedure. It is true that many infants become constipated with an upper respiratory infection, but the majority develop a diarrhea due to the irritative action of mucus swallowed from the infected rhinopharynx. A cathartic tends to irritate the bowel still more, weaken the infant by dehydration, and secondarily, constipate the patient.

It is a better procedure to treat the acute infection and resort to enemata or suppositories for the accompanying constipation.

Mothers will often ask whether they should bathe the baby while it has a cold and many an infant is denied a bath for a month because it has a slight cough or coryza. The mother should be advised, of course, that she should bathe her baby every day as she had been accustomed to, just so the child is not exposed to a draft and is not chilled.

3. *Cathartics*—In the treatment of diarrhea in infants the use of an initial dose of cathartic is contra-indicated. The diarrhea is undoubtedly accompanied by an enteritis, due to whatever

cause, and an irritating action as produced by the cathartic is unquestionably harmful.

The determination of the cause of the diarrhea is of first consideration. In the great majority of cases this is due to an upper respiratory infection and not to the much-heralded "indigestion." The mechanism of the production of the diarrhea is either by the irritative action of the swallowed mucous or the relative overfeeding by the lowered tolerance for food produced by the infection.

If it is due to overfeeding in quantity or, as is frequently the case, in quality, particularly of carbohydrate, this should be treated as such. The recent addition of vegetables or other coarse foods to the diet may be a factor, as the mechanical action of these foodstuffs in the bowel may instigate a diarrhea. The big percentage of cases that are secondary to "colds" will clear up with no alteration in diet except as to quantity adjudged by the infant's appetite, and the treatment of the acute infection. The use of barley water and skimmed milk as the diet for the parenteral infections usually cares for the diarrhea.

4. *Swabbing the Throat*—Swabbing of the infant's throat for tonsillitis or pharyngitis is rarely indicated. The pharyngeal mucous membrane is normally delicate in an infant and in the presence of infection must necessarily be more marked so that application of strong drugs by swabbing is wrong. The trauma makes the development of peritonsillar abscess and secondary infection more likely. Practically all these cases respond to salicylates and citrates which may be given in relatively large doses because of the great tolerance for these drugs. Even in cases with severe edema of the pharyngeal mucous membrane or where the tonsils are so large and infected that they meet in the midline, swabbing should not be resorted to. Cold compresses or ice-collar will be more effective and less detrimental to the patient's tissues.

In children old enough to gargle this procedure is valuable as a cleansing measure. The benefits from this are purely mechanical, for we are unable to use solutions strong enough for bacterial action in these youngsters. One of the best and simplest gargles is sodium bicarbonate in lukewarm water.

5. *Treatment of Constipation*—"Doctor, what shall I do when my baby is constipated?" is a

very frequent question, and the busy practitioner is wont to pass it off with, "Give it a teaspoon of castor oil," or he might use slightly better judgment and advise milk of magnesia. There is certainly some reason for this constipation.

Let us inquire into the cause. It may be due to underfeeding in quantity or quality, insufficient fluids, spasm of the anal orifice due to fissure, atony of the bowel wall, weak abdominal musculature. By far the greater percentage are due to underfeeding of quantity or quality, usually of carbohydrate, or foods with an insufficient amount of bulk.

The following procedures are the more important ones employed depending upon the cause:

1. Addition of more sugar or transfer to more laxative sugars in the milk formula as from dextrimaltose No. 1 to No. 3 or to cane sugar. Addition of a teaspoon of honey to a few bottles or a teaspoon or two of malt extract will often aid the natural evacuation of bowel contents.

2. Use of cereal waters, as barley, or preferably oatmeal water, in the milk formula.

3. Fruit juices, orange and prune, the latter being many times more laxative than the former. In fact, many infants are constipated by orange juice, but the use of this juice plus a few particles of orange pulp may be efficacious. Prune juice is really a concentrated sugar and serves very well as a laxative food.

4. Cereals—farina or oatmeal—will furnish more bulk to the food.

5. In infants five months of age, mashed carrots or spinach may be used or vegetable soup with finely divided vegetables at six months. Graham crackers, apple sauce and corn starch pudding may be added at eight months. If the addition of these articles to the diet are not effective, mineral oil, 1 to 3 teaspoons a day, may be administered with the bottle feedings.

Suppositories may be efficacious, particularly if the retention is due to spasm of the anal orifice. These may be used daily without danger of any injury to the parts or of aggravation of the constipation. Enemata may be resorted to in cases of severe retention with gaseous distention and severe colicky pains. Gentle massage of the abdomen from the cecum all along the colon down to the sigmoid is a mechanical aid. Cod-

liver oil will be of value if there is present atony of the bowel due to rickets.

6. *Granuloma of the Umbilicus*—The navel should be entirely healed when the baby leaves the hospital, usually the tenth day. Failure to heal by that period is most commonly due to granuloma of the umbilicus. The exact cause of this condition is not known, but it is most likely due to improper tying of the cord, whereby the umbilical stump is too long, or failure to make the ligature tight enough completely to cut off the circulation. This excess of tissue becomes infected and the production of granulation tissue is stimulated.

Discharge from the umbilicus after four to six weeks is usually due to this, and proper treatment should be instituted. The infant should not be given a tub bath, the body being cleansed only by sponging. The granulation should be tied off at its base with twisted silk, and boric acid powder sprinkled over the lesion. If tied properly the granuloma will dry and detach itself in about forty-eight hours. If a small stump remains it should be treated with a silver nitrate stick.

7. *Milk Formulas*—We often encounter ridiculously dilute milk formulas written for infants during the first month of life. Mixtures as milk 5 oz., water 15 oz., sugar 2 teaspoons, are not uncommonly met with. It is physically impossible for an infant, no matter how small, to even maintain its weight on such a mixture. The caloric requirement is not furnished.

It is seldom that less than a half and half mixture is necessary. These infants do better on this strength of milk mixture than on one-third mixtures. The carbohydrate tolerance is great and this ingredient should be furnished up to the tolerance point, the danger signal being the development of frequent, watery bowel movements.

8. *Boiled vs. Unboiled Milk*—It is a generally accepted fact among pediatricians that infants should be fed boiled milk, the arguments against the use of boiled milk being easily disposed of. Boiling the milk so alters the curd as to make it much more easily digestible, and destroys the bacteria. These are the two most important alterations. The destruction of the antiscorbutic vitamine is overcome by the addi-

tion of orange juice to the diet at 5 or 6 weeks of age.

Even certified milk, in spite of its cleanliness and low bacteria count, should be boiled for the same length of time, two minutes, to so change the curd as to make it more easily digested by the infant.

9. *Colic*—Colic is due to gaseous distention of the bowel with increased peristalsis and spasm of the bowel. It is primarily due to overfeeding, whether it be the fat or the carbohydrate in excess. The breaking down of the fats to acetic, propionic and butyric acids causes intestinal irritation, accounting for the pain and frequent stools. The bacterial decomposition of the carbohydrates accounts for the vast accumulation of intestinal gases. The true picture of colic is well known to everyone, but the confusion of colic with underfeeding is the great stumbling block. A large percentage of so-called "colic" cases are overcome dramatically by complementary bottle feedings, as a supplement to the breast milk.

The clinical pictures of these two conditions are quite similar except that the colic baby is often better nourished than the underfed patient, but the reverse is very frequently encountered. The strict adherence to feeding rules often leads one astray in not giving the patient sufficient consideration and the baby continues to cry for more food when all it may get is a few drops of paregoric.

Every infant is an individual feeder and many require much more than the conventional $1\frac{1}{2}$ ounce per pound per 24 hours. The fallacy of weighing infants before and after breast feedings should also be emphasized. The weighing does not give information as to the concentration or the composition of the mother's milk and many infants are under or overfed by this practice. Let the patient be the test, for some month-old babies require 3 ounces at each feeding, while others require only 2 and others as much as $4\frac{1}{2}$ ounces.

When in doubt, offer the infant a complementary feeding of the proper proportions and it will judge for itself whether it has had enough or not. Nature has ample measures at her disposal to care for the slight excess the patient may consume. Remember always that in infant feeding,

underfeeding is much more common than overfeeding.

Examination of breast milk is a waste of time, money and anxiety. Again, let the patient be the test as to whether it receives sufficient nutrition from the breasts, without regard for composition of the food. The threshold of safety in the feeding of breast milk is very high and the tolerance great.

Preserve the lactation as long as possible, at least until time for weaning, nine months, and do not wean the baby because the mother tells you that her milk looks just like water. Make up the deficiency, if there is any, by the next best food, which is cow's milk.

10. *Care of Caked Breasts in the Newborn*—The expression of caked breasts of the infant is a dangerous procedure. A certain amount of secretion in the breasts of the newborn is physiological. Chemical analysis of this material has shown it to be essentially the same as adult milk, but grossly it resembles colostrum. The material in the breasts will dry up and disappear naturally in a week or ten days with no danger to the tissues, or if aided by the application of a firm binder over the chest wall.

Expression of the breasts tends to stimulate the reformation of the secretion and the tissues are so traumatized that infection is very likely to occur. The manipulation frequently leads to the development of a mastitis which may be followed by abscess formation. The process may then spread and produce a diffuse phlegmonous inflammation, followed by septicemia, and terminate fatally. This furnishes us with another example of the harmful results of excessive practice of hygienic measures.

11. *Teething*—Teething is a normal physiological process and must not bear the brunt of the attack of errors in diagnosis or failure to observe the accompanying pathology. Pressure in the gums from erupting teeth does cause pain in the gums, irritability, restlessness and loss of appetite, but it does not cause fever, diarrhea, constipation, convulsions and a long list of pathological conditions attributed to this natural process.

As an accompaniment of teething, we may have any diseased condition of the body. The susceptibility of the infant to infection during this process may, however, be increased. We all know of many infants that have a cold and a

cough every time a tooth erupts, but the teething does not cause this cold; it is secondary to the dentition.

The sequence of events, to my mind, is this: The pain and irritation of the gums due to the pressure of the tooth approaching the surface causes the infant to hold its mouth open, for pressure of the gum surfaces together is painful. It bites on its fingers and every available toy, thus allowing a ready avenue for infection. The resistance of the infant is lowered by its lack of proper rest, due to the irritation in the gums and its failure to take its food well.

The most common infection in infancy and childhood is pharyngitis, and the pharynx of the teething infant is fertile soil for the invading organism. From the pharynx the infection may travel just as it does in any other case of pharyngitis, namely, to produce otitis media, bronchitis, coryza and, in severe toxemias, convulsions from meningismus.

Vomiting is frequent in teething infants, not from pressure in the gums but from the secondarily infected rhinopharynx, and constipation and diarrhea are also due to the latter condition. The fever is due to the upper respiratory infection and not the erupting teeth.

It is fallacious and improper from a diagnostic and therapeutic standpoint to attribute these phenomena to teething, and if one looks closely he will usually find an accompanying pathologic picture with the dentition.

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ROSEOLA INFANTUM

EXANTHEM SUBITUM: THE CRITICAL PRE-ERUPTIVE FEVER
REPORT OF 15 CASES

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Roseola infantum is a very common disease, occurring in infants and small children, which cannot be recognized or diagnosed unless one is familiar with its symptom-complex. It is in order that this disease may be recognized and not mistaken for German measles or measles, as it is so often, that this paper is written, with the report of 15 individual cases.

Roseola infantum is an acute disease, occur-

ring very frequently in infants and small children, recognized by its sudden onset, abrupt rise in temperature, which has a tendency toward morning remissions, irritability, red throat, gastric disturbances, and the sudden appearance, two to four days after onset of temperature, of a maculo-papular rash, which is confluent, at times discrete, being most marked on the face, chest and abdomen; a sudden fall of temperature at the onset of rash, and the disappearance of the rash in 24 to 48 hours, with no known complications or sequelae as a result of this symptom-complex.

Zahorsky,¹⁻² who was the first author in America to describe this disease as a clinical entity and who separated this symptom-complex from the great number of other exanthems of infancy, gave the nomenclature "Roseola Infantum" to this disease.

Since the appearance of his articles in 1910 and 1913, there have been a great number of cases reported in the literature and many authors have described this disease, but very little has been added to what Zahorsky described a number of years ago. However, there has been some controversy regarding its nomenclature.

"Pseudo-Rubella" was the name given to it in 1916 by Thompson Westcott.³

"Exanthem Subitum" was submitted by Veeder and Hempleman,⁴ who also showed the presence of a leucopenia and a lymphocytosis in these cases.

Heiman,⁵ in a splendid article written a short time ago, gives a complete review of the literature and discusses this disease in detail. He states that the terms "Roseola Infantum" and "Exanthem Subitum" have not yet attained the association of tradition and are not meaningful terms to the medical profession. He suggests the term, "The Critical Pre-Eruptive Fever," a name which would carry a diagnostic note to the doctor and a name which embodies the cardinal symptoms.

Zahorsky,⁶ in a letter to the editor of the *Journal, A. M. A.*, states that the term "Roseola Infantum" gives two characteristics of the disease: its efflorescence and its almost exclusive occurrence in infants. It is acceptable to mothers and grandmothers, since the term "Roseola" was used by older practitioners. It may be translated as the "Rose" rash of infants. He states that the term "Roseola" has been abandoned by

dermatologists and can cause no confusion. The term "Exanthem Subitum" has many objections as Kuh and Garvin⁷ have so well stated, "this name will be a misnomer when the medical profession becomes familiar with the disease, and especially its early recognition, for then the exanthem will not be 'subitum,' or unexpected." Zahorsky also writes that two other diseases have critical pre-eruptive fevers and the rash is so often sudden and unexpected, namely, variola and dengue. He states also that "Exanthem Subitum" does not offer an acceptable translation or abbreviation. "Roseola Infantum," however, is now recognized as a distinct clinical entity, a common disease in infants, more frequent than other well-known established exanthems.

From the above, one is inclined to continue to use the term roseola infantum, as it is a simple nomenclature and can be easily explained to the mother.

The fifteen cases which are reported here have been seen over a period of less than five months. All of the cases have occurred in infants, ranging from seven months to twenty months of age. Of these, seven were males and eight were females. There is no history of contagion in any of these cases and therefore the incubation period is unknown. The onset was sudden in all, with the appearance of a high temperature, ranging from 101 degrees to a 104.5. In several of the cases, the temperature showed a typical morning remission which suggested the possibility of a pyelitis, especially in the female infant. In all of the cases, however, the urine was negative. Marked irritability was present in the majority of the cases, a red inflamed throat was present in all. Cultures taken of the throat in several of the cases showed the ordinary bacteria present. One infant had an otitis media; one infant vomited several times at the onset of this disease, and one had a diarrhea, which cleared up in about two days. No cough, rhinitis nor conjunctivitis were seen in any of the cases. Glandular enlargement varied. A few cases showed cervical and submaxillary adenitis; a few cases showed a post-auricular adenopathy. In five of the cases in which blood examinations were made, the white count was generally low, one case showing a leucopenia of 4,700. Lymphocytosis was present in all examined. The maculopapular rash which showed its appearance in all

of the cases came on suddenly, and with it occurred the disappearance of the high fever. In eight of the cases the rash came out on the third day after the onset of the disease; in three cases, on the second day; in two cases, on the fourth day, and in two cases on the fifth and sixth days, respectively. There were no complications of any kind following this disease. After the rash had faded, within a period of 24 to 48 hours, all symptoms had disappeared, and the infant was perfectly well.

REPORT OF CASES

Case 1. Baby E. F., 10 months old, female. First seen on May 1, 1925. Temperature 103.8 rectally. Irritable, throat red, the right ear drum inflamed. On May 2 temperature, 102.4, ear normal, throat still red, baby is bright and active. On May 4, a maculopapular rash appeared on the abdomen, chest, and mostly on the face. Temperature normal. Slight postauricular adenopathy; rash disappeared in eighteen hours, child perfectly well.

Case 2. Baby L. A., female, 10 months old. First seen on May 20, temperature, 102.6, irritable, throat red; culture of throat negative. White count 7800. On May 22, baby was seen again; temperature was then normal, and a maculopapular rash was present all over the body, most marked on the face. Rash disappeared in 24 hours.

Case 3. Baby B. B., male, 19 months old. On June 23, 1925, the baby was first seen. It had been sick for one day previous; temperature was 101, and the examination was absolutely negative except for a slightly inflamed throat. On June 24 and 25 the temperature continued from 101 in the morning to 103 at night. On June 26 the temperature dropped to normal and a maculopapular rash appeared, which disappeared in 36 hours.

Case 4. Baby M. J. S., female, age 20 months. Seen on July 3, 1925. Baby had been sick for three days with a high fever which rose in the evening and was down in the morning; when seen, it had a temperature of 102.6, it had enlarged submaxillary glands, and epitrochlear glands. The throat was markedly inflamed. On July 4 the temperature dropped to normal and the rash appeared. The next day the child was well, and rash gone.

Case 5. Baby P. E., male, 9 months old. First seen on July 5; temperature 103.2, vomited twice, throat red, July 6, temperature, 102.4, throat still red, otherwise baby is active and eats well. July 7 temperature normal, maculopapular rash on face, postauricular gland on left side definitely palpable. Rash gone in 24 hours. Baby well.

Case 6. Baby S. E., female, 11 months old. Baby became sick on July 22, 1925, with a high fever and restlessness. Was seen on July 23, had a temperature 102.6; throat red, cervical, postauricular and submaxillary glands enlarged. On the night of the same

day the rash appeared, temperature dropped to normal and the baby felt well. The rash faded in 48 hours.

Case 7. Baby F. M., female, 12 months old. Seen on August 1; temperature 102.6, five and six loose green stools that day. Examination was negative except for an injected throat. Child was treated for the diarrhea. On August 5 the maculo-papular rash appeared first on the neck, and then on the face. The temperature which continued high for four days dropped to normal. The rash faded in 24 hours.

Case 8. Baby R. A. P., male, 15 months old. Seen first on August 7, 1925; temperature 103, baby restless and constipated. Examination negative, except for an acute tonsillitis. August 8th, temperature 101, child about the same. August 9 temperature normal, rash appeared on face. August 10, rash fading, temperature normal, child well. White count 8300.

Case 9. Baby A. R., female, 13 months old. Seen first on Sept. 14, 1925. The history was, that three days ago, the baby became sick with a temperature of 104, no irritability and no other symptoms. She ran an evening temperature of between 102 and 103 for three days. When seen, temperature was normal but she had a marked diffuse, confluent maculo-papular rash all over the body, most marked on face. She had definite circumoral pallor. Throat and tongue appeared normal; no rhinitis; no cough. Rash disappeared on the next day. Baby perfectly well.

Case 10. Baby E. P., male, 12½ months old. Seen first on September 16, when baby had temperature of 101 rectally, had vomitted once and was very irritable. On examination, the throat showed a slight redness, the urine was negative, and he had a white count of 4700. On September 17 he was seen again and he had a temperature then of 103.4,—throat was still red. On September 18 the evening temperature was up to 104.2 and the next morning it was down to 101. On September 19, temperature was 103 at night and normal in the morning. On September 20 a maculo-papular rash appeared about the face and neck and the temperature came down to normal. The rash disappeared in 24 hours.

Case 11. Baby J. L., male, 14 months old. Seen on September 16, child was very irritable; poor appetite; temperature 102.6. Examination was negative except for an inflamed throat. On September 17 the temperature was 101,—culture of throat was negative, white count 7500. On Sept. 18 the temperature was normal and a maculo-papular rash was seen all over the body. The rash disappeared in 24 hours.

Case 12. Baby R. F., female, 17 months old. Seen on September 30. The history obtained from the mother was that the child on September 25 became irritable and had a temperature of 103.8. The fever continued on September 26 and 27. When seen the temperature was normal and a beginning rash was noticed about the ears and cheeks. On Oct. 1 the rash was out completely over the face, chest and abdomen, and the temperature was normal. The baby was well the next day.

Case 13. Baby J. M., female, 12 months old. On August 30 child became ill with a temperature of

104.5. The throat was very red; a culture taken at that time was reported negative. On September 1 the temperature was 103 in the morning and 104.5 in the evening. On Sept. 2 a rash appeared about the face; temperature was normal. The rash was gone in 36 hours.

Case 14. Baby A. L., male, 8 months old. Seen on September 20. Had been sick about two days with a high temperature and marked irritability. When examined baby had a temperature of 103.6 and the throat was very red. A culture taken at that time was reported negative. On September 21 a maculo-papular rash appeared and the temperature dropped to normal. The rash disappeared in 24 hours and the baby was perfectly well.

Case 15. Baby L. T., male, 13 months old. Seen on July 18. History obtained from the mother was that the baby had been sick for two days with a temperature ranging from 101 in the morning to 103.2 at night. Upon examination temperature was 102.6 and the throat was very red. On September 19 rash appeared, temperature dropped to normal and the child was well. The rash faded in 24 hours.

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HEART BLOCK FOLLOWING GRIPPE INFECTION

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Cases of heart block following influenza complicated by pneumonia are not uncommon. Cockayne¹ reports nineteen cases of bradycardia due to a condition of partial heart block, all of which had pneumonia complicating influenza. No case of uncomplicated influenza developed heart block, although bradycardia was frequently met with during convalescence.

Bass² reports several cases of cardiac irregularity, especially extra systoles following tonsillitis and grippe. No permanent or ill effects on the heart could be determined.

The following case is of interest in that a condition of heart block complicated a grippe infection in a previously normal boy, and com-

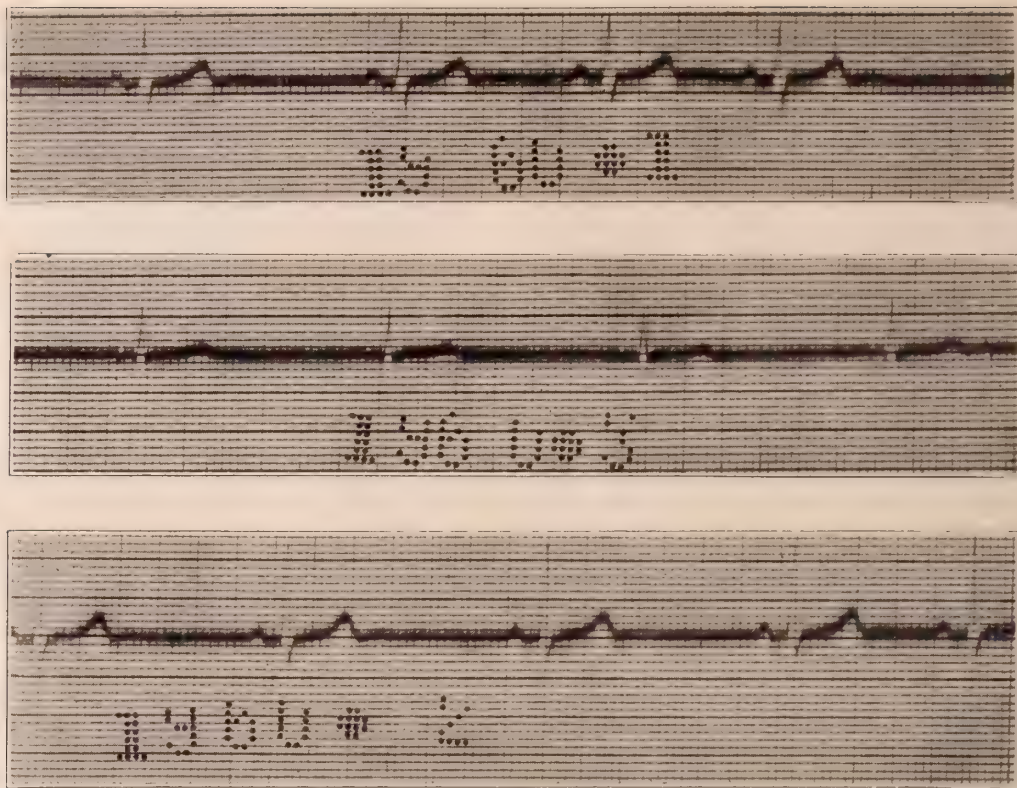


Fig. 1-3. Heart block. P-R interval 0.12 sec. average rate 58 per minute; no changes in length of P-R interval; no dropped beats.

pletely disappeared after a period of four weeks, leaving no ill effects.

N. L., age 15, male, white, school boy, was taken ill on February 17, 1925, complaining of sore throat, chills, aching all over body, prostration and cough. An older brother had had the same complaint a day previously.

The temperature by mouth was 102.4, pulse 80 and regular, heart beat at apex 80 and regular. General examination was negative except for a pharyngitis. The heart borders were within the normal limits and the tones were regular. The lungs were clear.

February 18, the next day, he complained of marked weakness and slight dyspnea, even while lying quietly in bed. The temperature was 100 by mouth. Heart beat at apex was 40 and regular. The radial pulse corresponded with the apex beat. The general aching had improved on salicylates and the pharyngitis was much better.

February 19, the temperature was 98.6, heart beat at apex varied between 40 and 44, and was regular. The throat was better and the only complaint was weakness and slight dizziness on attempting to sit up in bed. The heart rate continued the same, and on February 23 an electrocardiogram was taken, which revealed a condition of partial heart block. The P-R interval was 0.12 sec. Average rate 58 per minute, no changes in length of P-R interval, no dropped beats present.

March 5, the heart at apex was 60, and he felt perfectly well except for dyspnea upon any attempt at exertion.

March 12, the heart beat was 72.

At first it was thought that this condition was merely a bradycardia, but when it did not clear up after a few days as is common in bradycardia, an electrocardiogram was indicated to rule out a heart block.

Strychnine and atropine used in physiological dosage had no effect on the heart rate.

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SPLIT FASCIA INCISION FOR APPENDICITIS

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The above name has been given to this operation for appendicitis, the reason for which will appear as the explanation proceeds.

The need for this procedure was suggested by

difficulties encountered in pulling an appendix with a short meso-cecum up through the ordinary rectus incision; in draining walled-off abscesses so that the contents of the abscess might not spill into the larger portion of the peritoneal cavity. Again when using the grid-iron incision it was found troublesome to take out an undescended, retro-cecal or retro-peritoneal appendix; the impossibility of exploring gall bladder, or in the woman, the uterus and appendages. And lastly, a greater danger of post-operative hernia. The technic is as follows:

The distance from the umbilicus to the anterior superior spine is tri-sected. At the union of the outer and middle thirds an incision is made half an inch above this line extending downwards paralleling the rectus muscle. Incision goes through skin and superficial fascia down to the aponeurosis of the external oblique. The external oblique fascia is divided so that the red fibers of the oblique show to the outside of the incision and we now come down to the fascia of the internal oblique. The inner edge of the split external fascia is grasped with three forceps and with a Kocher or handle of the knife is separated from the internal oblique three-quarters of an inch to one inch medial to the outer margin of the rectus muscle.

This is easily done, usually by pressure, but sometimes the blade of the knife is necessary to separate these two layers of fascia. Incision is now made through the sheath of the rectus muscle which is composed at this time of the internal oblique fascia alone. A cuff of at least one-quarter to one-half inch of fascia is left medial to the incision. The outer edge of the internal oblique fascia is now grasped with three forceps and with a Kocher director the rectus muscle fibers with a few branches from the deep epigastric vessels and usually a small nerve from the inter-costals are pushed toward the middle line. Incision is now made through the posterior sheath and peritoneum and the abdomen is open.

It has been observed over and over again that a plumb line dropped from the center of the incision comes directly to the appendix unless through non-descent, adhesions or ptosis it is misplaced. The appendix is removed, peritoneum and transversalis fascia sewed, the displaced rectus muscle is brought back and secured to the original position in its sheath by a few small plain catgut sutures; the internal

oblique fascia is now sutured with fine kangaroo tendon or chromic catgut and the external oblique fascia is sutured in like manner, and skin and superficial fascia are closed.

The advantages of this operation are manifold. Firstly, it affords the most direct access to the appendix. Secondly, the incision can be enlarged up or down to get a displaced appendix, explore gall bladder or lower pelvis. An abscess can be drained by pushing the fascia away from the peritoneum outwardly and so approaching the abscess to the outside of the wall of adhesions and lastly, hernia is practically an impossibility because there are four distinct lappings of the different layers of the wound.

This operation was originated by the present author eleven years ago. It has been performed and clinically demonstrated many times and is submitted for consideration with full confidence that it is a practical and helpful procedure.
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DIAGNOSIS AND TREATMENT OF NEUROSYPHILIS WITH REFERENCE TO INOCULATION WITH MALARIA*

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Nowhere in medicine are there such manifold clinical manifestations as in syphilis. Produced by only one living agent, the *treponema pallidum*, the disease practically invades every organ of the body and displays a multiplicity of symptoms which is large enough to defy descriptive skill. The layman as well as the medical man has become familiar with the terms primary, secondary, tertiary, and quarternary or metasymphilis, sometimes called para-syphilis, but few realize that these orthodox conceptions have only a superficial and some practical value. Never will we arrive at a thorough understanding of the thousand and one different manifestations of the luetic process if we retain this rigid scheme. There is a gradual going over in the different stages which are more or less interwoven in a biological unit, still more complicated by constitutional factors. A process which chronologically might appear as belonging to the tertiary period, really is of so-called metasymphilitic

*Read before the Morgan County Medical Society, April 8, 1926.

nature; and on the other hand, what appears to the dogmatic observer to be metasyphilis, in fact, is a secondary, vascular involvement. Frequently, for instance, we see paretics who repeatedly develop skin eruptions and other secondary symptoms. This paper is presented with the purpose to touch a number of interesting questions and to prove that we are slowly advancing in an extremely important and difficult field in which early diagnosis is the chief demand and finally to offer a few suggestions. You might find them worth while if you believe that our experience in dealing with neurosyphilis is of any value.

Leoncino in 1497 was the first one to ascribe a nervous disorder, and in this case hemiplegia, to syphilis. Emser about 20 years later blamed syphilis for the psychosis of the general paralysis type. Paracelsus, 10 years later, speaks of the syphilitic virus producing a nervous disorder which we readily can recognize as syphilitic meningitis, but the name "syphilis" originated from Fracastorius in 1521. In the sixteenth century various other nervous disorders were referred to syphilis; to name only a few, the various neuralgias, headaches, deformities of the joint called arthropathies, epileptic seizures, optic atrophy, and a great number of other ailments which we now recognize as symptoms of the whole neurosyphilis group.

In the seventeenth century the first definite description of general paresis was given by Willis. The two following centuries were characterized by great activity in this field, but the scientific basis for the study of syphilis in its various forms was laid by Virchow in 1847, whose interest was concentrated chiefly upon the syphilis of the blood vessels. These classical investigations were enlarged and standardized by Alzheimer, who carried the pathological-anatomical study of neurosyphilis to a comparatively high degree of perfection. The final victory came after a struggle of more than four centuries when Schaudinn in March, 1905, successfully identified the *Treponema pallidum* or spirochaeta pallida as the bacterium which causes syphilis. There are a great number of distinguished names appearing on the list, who have investigated syphilis and especially neurosyphilis in the twentieth century. The enumeration of

these names would fall out of the limits of this paper.

Looking back upon the development of the clinical and pathological-anatomical achievements which were obtained during a period of over 400 years and comparing them with the results of the treatment, we must admit that there is quite a discrepancy to be noticed. A remarkable parallelism exists between neurosyphilis and cancer in this respect. Tremendous efforts to master the situation have been made with rather meager rewards. An ever increasing number of antisyphilitic remedies have been added to the oldest remedy, mercury. They are mostly salts of arsenic, bismuth, iodine and other metals, and their modes of application are at least as manifold as their chemical composition; but all these efforts were not encouraging enough to entitle us to the hope that the problem would be solved in the near future. The ideal scientific way of combating and treating the disease is the thorough pathological-anatomical understanding of the tissue changes of the clinical picture accompanying the process and of the causing agents, and the combination of these factors determining the final success must lead to a well defined logical course of treatment. On the other hand, there is an empirical way which is not definitely outlined in advance, not subject to our logical conclusions, but subject rather to chance and hazard. All attempts to control syphilis by pharmaco-chemical means up to the present date must be defined as empirical ones. Ehrlich and Hata obtained their new remedy commonly known as 606, merely by experimenting with a great number of different compounds which they thought might offer a chance for success, and this is the case with all our other remedies, be it mercury or be it tryparsamid, or be it any other drug. These remedies have not been discovered in the same way in which, for instance, an astronomer finds a new star by logical conclusion, or in which a chemist detects a new element of which he knows the existence, merely by logical conclusion. There lies the secret for our failure. We have not yet succeeded in analyzing the syphilitic process in the body so thoroughly that we might predict its possible development for ten or twenty years in advance. There is no definite physical formula to be outlined. The chronicity of syphilis, especially the

connections between the early stages of lues and the late consequences upon the nervous system, are immensely complicated factors which are not yet clear at all. If a great many medical men believe that we have reached a fair understanding of etiological, pathological-anatomical and clinical manifestations of syphilis in general and neurosyphilis in particular, the fact alone that there is an unduly great discrepancy between theory and practice must prove to us that they are deceiving themselves.

If we read up the text-books on neuropsychiatry written ten or fifteen years ago we learn that metalues follows the tertiary period and has to be considered as something like a quaternary stage of syphilis. Furthermore, we are taught that the syphilis of the central nervous system develops from about ten to thirty years after the primary lesion has occurred. In order to explain this peculiar behavior of the spirochaeta they found it convenient to construe a special strain of the bacterium to which they attributed a peculiar affinity to the nervous tissue. No one has ever seen this hypothetical virus. It never has been demonstrated consistently, nor has there ever been any indisputable argument advanced in favor of it. Matrimonial neurosyphilis or development of neurosyphilis in several persons following an infection from the same source and a number of other arguments, too, cannot be considered as an absolute scientific proof. Very soon after the infection the disease becomes generalized through the blood stream, and although the first visible manifestation of the general infection is localized in the skin no one has ever seen the need of construing a special strain with special affinity for the skin. It appears rather natural to assume that in a certain percentage of cases the morbid process must be localized in the brain because the nervous tissue certainly is not immune against the spirochaeta or its alleged toxic products.

The brain, as the material substrate of that indefinable something which we call the mind, is the seat of so many vital functions and behavior reactions. A disturbance of its structure will produce a condition which naturally is more conspicuous and invites us to speculative and auto-suggestive hypotheses; furthermore, it is utterly untrue that metalues is a tertiary or even a quaternary stage of lues. Much light has been thrown upon this problem since our laboratory

methods have become more and more sensitive. Metalues belongs to the late secondary period because the early pathological changes in the meninges and the parenchyma take place in the secondary stage as a consequence of syphilitic involvement of the blood vessels. Pathological changes of the cerebro-spinal fluid in the early secondary stage are quite frequent, but even cerebro-spinal fluids which do not yet show measurable serological changes cannot always be considered as free from infectious material. Inoculations of animals with such fluids have disclosed that the spirochaeta has already invaded the central nervous system and where there is a virus there is a danger of its detrimental activities. Fortunately the majority of these cases of early nervous involvement end in restoration to normal conditions.

This problem, which can be touched here only very briefly, is an extremely important one because it leads us to a series of closely related questions. How soon after the primary lesion can it be expected that the spirochaeta actually attacks the central nervous system, and what are the possibilities for a practical and working method to determine the early stage of neurosyphilis? The practitioner and the specialist are equally interested in the solution of this question. Here is another parallelism between the two greatest problems, cancer and syphilis. Prevention and earliest diagnosis are the most vital points. The cancer problem stands and falls with these two points of paramount importance; so does the problem of neurosyphilis, therefore, the general practitioner must constantly bear in mind the vital importance of an early diagnosis and he should do away with the obsolete dogma of the primary, secondary, tertiary and metaluetic stages.

The general practitioner as a rule meets neurosyphilis when it is already well advanced and when there should be no particular difficulty to recognize the condition right away. In the following discussion I shall select only a very small group of symptoms which are of outstanding value for the diagnosis in connection with the laboratory methods. The organ which if properly examined can give us the most important findings is the visual apparatus. We may be misled by listening to the patient's subjective complaints but we never should be misled by the

findings of the optic apparatus because they can be tested in an accurate and impersonal way. The symptomatology of the diseased optical tracts is complicated and immensely variable. There is night blindness, color blindness, dimness of vision, complete amaurosis, either unilateral or bilateral; scotomata of various kinds and degrees; there is temporal, nasal or crossed hemianopsia, optic astereognosia, and soul blindness, falsifications of sight and a number of other disturbances all of which might be produced by syphilis. The light waves are received in the retina. This is the first neuron or the first section of the way which the light stimulus has to travel in order to reach the stage of consciousness. The second neuron follows the optic tract through the crossing in the chiasma and leads to the external geniculate body, the pulvinar of the optic thalamus and the anterior quadrigeminal body where the primary visual centers are situated. From there the third neuron arises. Through the optic radiations the stimulus reaches the cortex of the brain in the calcarine fissure which is located in the occipital lobe. This is the gross anatomy of the incoming pathways. From there new fibers arise connecting the visual center with the higher associations areas and the different nerves which supply the muscles of the eyeball. Naturally if the syphilitic process is located within the way of this intricate and richly communicating system there will be certain functional disturbances; knowing the functions of the different sections of the system we are able to give the proper localization of the morbid process. Beginning with the first neuron, the retina, we have to consider in the first line the syphilitic retinitis which, of course, can be hereditary or acquired. Contractions of the visual field either concentric or irregular, dimness of vision, night blindness; central, partial, and complete scotomata will induce us to make use of the ophthalmoscope by which we can detect opacities around the disk, hyperemia, and serous exudations. If the second neuron is affected the trouble can lie anterior to the chiasma, in the chiasma, and behind the chiasma; the involvement caused by syphilis in this region is called neuritis. The symptoms might be acute or chronic dimness of vision with more or less extensive scotomata. *Tabes dorsalis* or locomotor ataxia frequently begins

insidiously and isolated as such an interstitial neuritis of the optic tract. The process which is transmitted by continuity from a basal meningitis slowly proceeds from the pia inwards through the septa toward the central portions of the tract; an analysis of the visual disturbances is most difficult if the lesion is localized in the region where the connections of the second and third neuron are made, that is, in the corpora quadrigemina, pulvinar, and optic thalamus. The majority of the fibers form their connections in the external geniculate body, building up also rich collateral associations with the oculomotor, the trochlear, the abducens, and the acoustic nerves, and with the sensory tracts by means of which the eye movements are associated with the light stimuli and the spinal muscle nuclei. Finally, if the lesion is situated in the end stations of the optic radiations or within the cortex of the occipital lobe, there might be found mind blindness, optic agnosia, or visual hallucinations. These hallucinations sometimes are definitely localized in space and then an approximate determination of the localization of the lesion in the brain cortex can be accomplished.

Another large and important group of eye symptoms are the pupillary disturbances. They are extremely frequent in cerebral spinal syphilis, in *tabes dorsalis*, and general paresis, and vary greatly in degree from the slightest anomalies of the iris to the absolute stiffness to light commonly known as Argyll-Robertson pupil. Sometimes these disturbances are already fully developed when there is no other sign of neurosyphilis visible. On the other hand, even in well-defined cases of cerebral syphilis there may be no disturbances of the pupillary light reflexes at all. This, for instance, is the case if the lesion is situated posterior to the pulvinar. This explains the fact why in some undoubtedly syphilitic involvements we have advanced pupillary irregularities; in others, we have none. Finally, let me mention that there is a great variety of symptoms of a diseased ocular sensory motor system. Palsies of the oculomotor nerves, of the central peripheral, of complete and partial nature are common; syphilitic thrombosis may cut off the blood supply of the nuclei of the ocular motor nerve; of course, it is impossible within the limits of this paper

to discuss the almost endless symptomatology of the eye in syphilis. I can pick out only very few instances and endeavor to show you some of our clinical material in which you will find a great variety of symptoms which I have not mentioned here. I have a case here of isolated unilateral paresis of the levator palpebrae. Diplopia, strabismus, and various other more or less isolated disturbances are frequent findings which the majority of you undoubtedly have met here and there; some of you may not have had the opportunity to see a case of horizontal nystagmus in juvenile paresis. I have one here for presentation.

According to the anatomical site of the syphilitic-lesion, which, for instance, might be vascular or gummatous or chronic proliferative-palsies of various forms in the different parts of the body occur, hemiplegias, monoplegias, muscle tremors, reflex alterations, and minor or major speech disturbances are extremely frequent. Dizziness, headaches and the so-called neurasthenic complex combined with high blood pressure, must be thought of, possibly being clinical manifestations of syphilis of the cerebral vessels. Persistent rheumatic pains, abdominal cramps, and epileptic seizures call for a thorough examination in the neurological and serological fields. We have seen cases which have been operated on for ulcer of the stomach, for appendicitis, etc., because neurosyphilis had not been eliminated by differential diagnosis. A great deal of the blame for this in general practice falls upon the x-ray man who, being subject to auto-suggestion more than any one else, furnishes the clinician with a diagnosis of his own instead of with a detailed report of his findings. The x-ray examination is a laboratory method; so is the Wassermann test of the blood. A definite diagnosis cannot be based on either of these methods alone. Clinical observation is the backbone of the diagnosis. The physician of today has become accustomed to rely too little on his own diagnostic faculties. If he does not know what to do he looks for help from all kinds of technicians without viewing their findings critically enough. Laboratory and x-ray diagnoses such as pulmonary tuberculosis, chronic appendicitis, ulcer of the stomach are unscientific and might be acceptable only to the chiropractor.

Since the technic of the examination of the blood and spinal fluid has been improved greatly within the last ten years or so the laboratory tests have become an absolute and essential part of the examination. The search for the spirocheata in the spinal fluid is rarely successful. Far more important is the Bordet-Wassermann reaction in the blood serum and the spinal fluid. The more recent the infection the more positive blood Wassermanns. This is the general trend but there is no rigid rule. A negative blood Wassermann does not prove at all that there is no syphilitic involvement of the central nervous system. Some authors emphasize, and we believe that this is right, that negativity of the blood is a quite common tendency in neurosyphilis. The older the process the less frequent a positive blood Wassermann; this is a trend which we believe contains much truth. In a number of cases there is a four plus Kahn reaction if the Wassermann is negative. Wassermann and Kahn precipitation tests should always be done both on the same blood specimen. Most of the large laboratories have accepted this policy. As said above, a negative Wassermann does not prove the absence of syphilis and a positive Wassermann is to be valued merely as one symptom out of so many symptoms of syphilis, out of a whole complex; some of these symptoms might be substituted by another symptom such as neurological findings, for instance. The same must be said about the positivity or negativity of the Wassermann test. Not every absolutely certain case of neurosyphilis must have a positive Wassermann on either blood or spinal fluid. The explanation why sometimes there is a four plus Wassermann on the spinal fluid and at other times there is a completely negative one in the fluid of the same patient, would lead us too far away from the purpose of this paper. As a rule, cases of neurosyphilis show a positive Wassermann in the blood and spinal fluid even if small quantities of fluid are used, the spinal fluid tending to be oftener positive than the blood. At all events, a blood Wassermann and spinal fluid examination are essential in all cases and more than 90% of the doubts can be cleared up by these tests.

The cytological examination of the spinal fluid is almost equally important. Here the outstanding feature is an increased number of

lymphocytes. From none to six cells per cubic millimeter is normal, from seven to ten is considered as borderline, above ten is pathological. Besides lymphocytes one occasionally finds leukocytes, large plasma cells originating in the syphilitic granulations and eosinophile cells. The pleocytosis may go up as high as 2,000 cells per cubic millimeter but the usual number fluctuates between 10 and 200. The increased cell content of the fluid indicates an increased activity of the morbid process which, however, is not necessarily always due to syphilis. It is rather an indicator for the extension of the process and regressive changes in the syphilitic foci. The results of the microscopical examination, therefore, ought to be viewed critically and must be brought in connection with the other findings in the fluid. However, it is generally conceded that lymphocytosis in the fluid is one of the very early findings in neurosyphilis and in over 30% of all syphilitics it has been found to be present during the time when the hard chancre was fully developed and skin and mucosa manifestations were not yet developed, and it was present in these cases at a time when the generalized syphilis had not even produced a positive Wassermann. As soon as the syphilis definitely localizes in the nervous system, more or less constant changes are produced in the cerebro-spinal fluid. Most of these cases present also an increased globulin content, the amount of globulin as a rule running parallel to the pleocytosis. No fixed relationship seems to exist between Wassermann on the one side and pleocytosis and globulin content on the other side. To make it clear, taken alone these four standard tests, namely, blood Wassermann, fluid Wassermann, cell count, and globulin permit no positive conclusion in regards to details of the syphilitic involvement, but if looked upon intelligently as an entity, valuable conclusions as to localization, prognosis, and treatment can be drawn. There are some additional tests such as the Noguchi luetin skin-test with killed spirochaeta cultures; the provocative Wassermann, which is of rather doubtful value; the Sachs-Georgi reaction; the Meinecke reaction; the Mastix reaction; and the Lange colloidal gold reaction. The latter one is the most dependable of these additional tests. It is a color reaction which is chiefly used for the purpose of differ-

entiating between special forms of neurosyphilis over which we will glance shortly in the following paragraph.

The syphilis of the cranial bones frequently affects the nervous system and might impress one as neurosyphilis, but most frequently it is mistaken for epilepsy or other diseases which produce intracranial pressure symptoms. They are mostly gummata, which if of considerable size, cause headache, nausea, vomiting, restlessness, epileptiform convulsions, choked disk, motor, sensory, visual and other focal symptoms.

The meningitis of the base is the most frequent form of nervous syphilis met with. The symptoms are as variable and multiform as the localization of the process which is different in almost every instance; most of the cranial nerves are exposed on the base of the cerebrum and therefore naturally apt to be attacked. The first signs of their involvement may appear as early as three months and as late as thirty years after the primary lesion. Carried by the blood stream the bacterium at first enters the cranial cavity through the complicated and dense network of the arteries underneath the pons and the pedunculi of the cerebrum. The considerable narrowing of the lumen occurring more or less briskly produces a rather sudden retardation of the blood stream in the capillaries which is favorable to the settlement of the spirochaeta. In the great majority the pathological tissue changes arise in this part of the meninges near the pons. Unfortunately, a number of cranial nerves, and in the first line the optic tract, must be attacked and later on the morbid process extends along the meninges around the nerves, penetrating in the sulci and in the brain substance proper. Early complaints consist of headache, especially intense as nocturnal exacerbations, as visual disturbances and mental disbalancement. Sooner or later more definite signs appear, mostly in form of isolated or complex nerve palsies. One-third of all the cases have trouble with their eyesight and develop a number of findings which I mentioned previously. Practically every one of the twelve cranial nerves might be implicated in some way causing simple or complex symptoms, according to its functions. Mentally such patients present striking features; the intensity of the mental manifestations is changing in short in-

tervals; emotional instability is displayed continuously. There is a wide range of mood from extreme apathy to the most violent outbreaks. A period of unconsciousness and deep coma is suddenly followed by an acute exhilaration possibly with a series of epileptiform convulsions. Delusions of persecutory nature, hallucinations of all sorts, homicidal and suicidal attacks based on paranoid formations cannot deceive the diagnostician if he bears in mind that syphilis produces psychotic symptoms which temporarily at least often resemble closely the manic-depressive, the praecox, the alcoholic, the epileptic, and other psychoses.

The meningitis of the convexity of the brain occurs either more localized or combined with the meningitis of the base. If it is a clear convexity affair there will be less involvement of the cranial nerves unless it is through intracranial pressure. The headache which comes on in paroxysms, is particularly intense and there are more focalized manifestations. Epileptiform seizures are very commonly met with as well as motor speech troubles, mono- and hemiplegic attacks, and a number of other cortical symptoms. In fact, the picture becomes so complicated and the devastations of the different brain areas are so extensive and diffuse, and the destruction progresses so deeply into the sulci that it is practically impossible to draw a distinct line between the various forms of meningitis and general paresis, which latter represents the combined meningo-encephalomyelitis form because the medulla is very frequently invaded in the same way.

General paresis is the classical type of neurosyphilis both as to neurological and mental symptoms; it is the syphilitic inflammation and disintegration of the parenchyma of the brain and therefore in the first line a central type of brain syphilis. In the neurological field there are almost as many different findings as there are patients. In the mental field you might gain a rough orientation in the classification introduced by Kraepelin. Therefore, we divide the cases in the simple dementing, the depressed, the expansive, the agitated, the irregular, and the juvenile form. *Tabes dorsalis* might be mentioned as sometimes entering into combination with the true central encephalitic forms. Symptoms and course of general paresis are too well

known to require any discussion in this place.

It was not very long ago that neurosyphilitics with mental trouble were treated by imprisonment; behind the iron bars they were looked at like wild animals and they were lucky if they died as soon as possible. Some ten years ago in this hospital the bars were removed and occupational treatment was gradually introduced. But this did not mean that a paretic was really cared for scientifically; it took some more years to give them some kind of an antisyphilitic treatment, although still in an inadequate and non-systematic way. The treatment of paresis was a thankless job; it was generally presumed that nothing worth while could be achieved; so why spend effort, why spend money if they will die, anyway? If we want to be fair to the patient who is entrusted to our care and efficiency we must deny this spirit of discouragement. Besides it is an erroneous conception that the treatment of neurosyphilis is a thankless job, at least, not less thankless than the treatment of cancer. Some forms of neurosyphilis, if treated persistently, yield very good results.

As we believe it to be beyond reasonable doubt that all forms of neurosyphilis are due to the presence of the spirochæta or its toxic products, our chief attack must be directed against this enemy. From an ideal remedy we ought to demand that it kills the spirochæta in nontoxic doses, that it neutralizes all its possible toxic products, and that it promotes restoration of diseased nervous tissue. We do not possess such an ideal remedy—the results cannot be ideal, but we have means by which to fulfill a part of the requirements. Mercury, arsenic, iodine, and bismuth are the drugs chiefly used in therapy of syphilis; some other chemicals have been tried out but have not yet proven valuable enough to be classified among the standard drugs. Incomplete application of drugs does more harm than good, therefore, it is of utmost importance that the treatment is carried on energetically for a considerable length of time. In a great many instances, however, we seem to be unable to reach our ultimate goal—the thorough sterilization of the body. We do not know positively how deep these drugs penetrate the substance of the brain, some parts of which probably are never reached by these chemicals in sufficient concen-

tration to produce any measurable effect. The spirachæta grows hidden in the connective and vascular tissue, as well as in the depth of the nerve tissue where it has been demonstrated. How far the diffusion and osmosis of the various chemical solutions go without being unduly diluted or even altered in their molecular structure is not sufficiently known. It was just the realization of this thought which introduced the intraspinal and intraventricular application of the arsenicals. Some believe that the spinal fluid exerts a diluting influence upon the medicaments which makes them less efficient. They, therefore, drain the fluid before they inject the remedy. Others do not drain before injection. However, the results of these special methods have not justified their hopes. As long as the foci of the morbid process are easily accessible, on or near the surface or along the larger vessels, there is a greater chance for the chemicals to act in a sufficient concentration. From the anatomical standpoint it appears plausible enough why some forms of neurosyphilis respond well, others not at all to treatment.

Mercury in its various forms is our oldest remedy, it is used alone or in combination with other drugs and has to be considered as efficient in earlier periods of the disease. Investigations have shown that it does not prevent the development of pathological changes in the spinal fluid. Yet it has to be considered as valuable, especially in vascular and gummatous involvements. Insoluble and soluble salts of mercury are widely used. We prefer the suspension of metallic mercury in oil, which is injected in the buttocks once a week. One of the most popular arsenicals in the presalvarsan period was the cacodylate, which was used quite successfully in some cases until damages to the optic nerve discredited the drug. Then began the salvarsan era. Hot battles have been fought over this remedy. Summarizing its value, we might say that it is promptly acting in earlier stages of syphilis—often promptly enough to induce the patient to discontinue the treatment to his own disadvantage. In neurosyphilis its value is limited—results can be expected only with doses that are higher than usually administered. The desire to render the arsphenamines less toxic in higher doses has led to a number of derivatives such as silverarsphenamine, neoarsphenamine, sulpharsphenamine, and recently tryparsamide. We

have been using these drugs on over 130 neurosyphilitics with satisfactory results. The chief factor is that sufficient doses must be given over a protracted period. Our results make us believe that here the often discredited “gunshot method” has its advantages, inasmuch as we do not possess any exact criterion for our methods, they are not based on objective scientific grounds. We have tried to cover as much ground as possible with the various remedies. A patient who is not benefited by one might be benefited by another drug. Of course, the method must be applied intelligently and then it will permit a good deal of individual variations which we use extensively. We believe that only such a definite plan combined with empirical modifications can lead to success in an institution which has to care for a large group of such cases. After several months of intensive treatment we have found out a great deal about the patient's response to the various drugs on the market. Although we begin with a rather rigid scheme, our method is at the same time very flexible, especially if combined with repeated blood and spinal fluid tests. We started with a group of 110 neurosyphilitics, treated all alike, but very soon the group was split up in five different subdivisions and the shifting is still going on. Tryparsamide has been used extensively—more than two thousand intravenous injections have been given within 14 months. We are proud to say that in no instance has there been observed any of the damages which have been reported from other places. We give the maximum dose of 3 grams once a week—10 to 12 injections representing one course. In some courses it is combined with mercury, in others it is given alone. To say it briefly, it is very valuable in neurosyphilis, but sulpharsphenamine, neoarsphenamine and tryparsamide used in combination are apt to give the most satisfactory results. I have given a summary of our results in the March issue of the *Welfare Magazine* to which I might refer you because the discussion of these results within the limits of this paper would go too far. There are a great number of drugs of minor importance on the market, but none of them can rival successfully the above mentioned standard remedies. A few years ago Fischer of Germany introduced the sodium salt of nucleinic acid and reports quite favorably on it. Based on these results we recently have decided to use the sil-

ver combination of this salt. Two cases have been treated with it for a short time only—a marked increase of leukocytes in the blood following the subcutaneous injections was the outstanding feature. To our knowledge this chemical compound has never yet been used in the therapy of neurosyphilis. As the leukocytosis most probably has a beneficial influence and as the silver is a powerful germicide we shall try it out, especially in connection with the malaria treatment. The danger of the treatment with drugs does not so much consist of damages to the nervous structures as of inadequate treatment. If there is anything like immunization against the spirochaeta, insufficient treatment probably will interfere with it, will only weaken the bacterium and so diminish the sensitiveness of the body in the earlier periods following the infection. Thus many believe it will promote a late involvement of the central nervous system.

Based on the fact that acute intercurrent diseases which produce an elevation of temperature—such as pneumonia, typhoid, erysipelas, abscesses and others, are liable to produce striking remissions in paretics; Wagner V. Jauregg in Vienna conceived the idea to use this empirical knowledge systematically for therapeutic purposes. Typhoid vaccine, proteins, tuberculin and other fever producing agents were tried until in 1917 the first experiment with tertian malaria plasmodium was made. One or two c.c. of blood from a nonsyphilitic donor suffering with a suitable type of malaria, were injected intramuscularly. After an incubation period of about one to two weeks or more, the patients developed their first chill. From eight to sixteen chills were allowed and then the infection was checked by quinine. The method is simple and no unreasonable danger is connected with it providing that only the benign tertian type is used. This danger is eliminated by careful study of the donor's strain. Later on most of the European investigators transmitted the blood from paretic to paretic. Our method is similar. After having obtained the benign plasmodium from a nonsyphilitic donor, 2 c.c. of blood were transmitted intravenously from paretic to paretic and the plasmodium has so been kept alive since August, 1925. About 10% to 15% of the inoculated patients did not take but by repeated inoculation this percentage could be reduced to about 8%. The virulence of this same strain which we have

been using all the time, varies greatly at different periods. Furthermore, the clinical manifestations have been different in almost every instance; quite a number of the patients stopped their chills spontaneously after two or three attacks. It is interesting to observe the effect of numerous direct passages of the plasmodium through man. The sexual cycle is abolished and malaria is not any more transmissible through the bite of the mosquito. Therefore, there is no danger that the institutions may become a menace to healthy individuals.

Wagner V. Jauregg's investigations opened a new field which was invaded by a number of large clinics. Considerable enthusiasm favored this movement and enriched the literature with some sixty members, and their number is constantly increasing. Reviewing this literature one gains the impression that the malaria treatment in central type of cerebral syphilis compares very favorably with all other methods even if one takes into consideration that there are unduly enthusiastic reports and that sufficient time has not yet elapsed to permit an exhaustive and critical survey. In this hospital we are inclined to be critical and conservative in regard to the final outcome. Therefore, we may not be able to compete with the statistics of other places where they have discharged a number of their patients, sent them back to their old environment, let them go to work and adjust on the outside. We could have at least as many if not more such show cases, but we have decided to follow up our patients for a number of years; only in this way will we gain an objective impression which will be of value for the time to come. Only two patients were discharged being in complete remission. They are out now six months and get along fine. Statistics are so often misleading and in this case they are particularly doubtful. We have inoculated 50 patients and 50 more are awaiting their chills, or have gone through recently. Briefly stated we are very satisfied with the results. It might be mentioned that the maximum of improvement does not follow immediately the termination of the chills—it often takes three or four more months to bring out the full effect. We allow the patient to have up the full effect. We allow the patient to have up to 25 chills if his general physical condition offers no contraindication. Some cases have been re-inoculated and are now going through

their second fever course. The best remissions were obtained in the expansive and agitated types combined with typical hallucinatory and delusional experiences, the most meager effect was noticed in the dementing and depressed forms; even far going dilapidated cases have improved to such a degree that they give us new hope where there has been almost nothing expected any more. All of our cases but two were previously treated with drugs. Here is another parallelism to the cancer problem. If a cancer is operable the patient should not be exposed to the hazard of treating him in a radiological laboratory—a combination of knife and radiation will give him the most chance to save his life. The neurosyphilitic will go safer if he is not exposed to the hazard of treating him with malaria alone, of which we do not approximately know its mode of action. Our standpoint might be different if the malaria treatment would result more often in a decidedly favorable change in the spinal fluid. But this is not the rule and the clinical improvement and findings in the spinal fluid or blood must not necessarily go hand in hand. Out of 20 spinal fluids taken after the combined drug-malaria treatment 14 showed only minor changes, 6 surprised us by a change of the 4 plus Wassermann to a negative one and a reduction of globulin and cell count to nearly normal. No scientifically founded comments can be offered at this time in regard to the mode of action of the plasmodium. Elevations of temperature cannot be the only responsible factor because some patients show marked improvement even if the rise of temperature is only very slight; in these cases the clinical picture is rather one of hemolysis with yellowish discoloration of the skin, loss of weight, and general physical decline which is checked promptly by quinine. On the other hand, we know that the spirochaeta is very sensitive to even slight increase of temperature, which exerts a damaging influence upon its vital activities. The hypothesis that the elevation of temperature is the main factor is supported by the observation that other fever producing diseases have a somewhat similar effect in paretics. Other explanations have been offered such as change in the tonus of the vegetative vasomotor system leading to accumulation of leukocytes in the brain and lowering of leukocyte count in

the peripheral blood stream, formation of protective substances in the blood and increased transsudation; all explanations, however, are unsatisfactory yet.

Summarizing the results obtained with the malaria inoculation we might say that there is no doubt that it is a step forward. Cases of neurosyphilis which have been refractory to any other treatment, often are benefited to a surprising degree. Drugs and malaria are used in the safest way by combining them. We should endeavor to clear up the mode of action of the plasmodium because this might open new and scientifically founded ways in the treatment of neurosyphilis.

Those who are inclined to take a pessimistic standpoint of view largely dwell on two arguments. They say that neurosyphilis generally shows a trend to spontaneous remissions. This is true at least in incipient cases. But for one who has observed paresis in a large hospital over a considerable length of time keeping in close touch with the kaleidoscopic changes it is clear beyond doubt that remissions in not treated cases are really much rarer than usually presumed. The majority of the treated patients are more easily managed, their life is materially prolonged and their physical and mental condition is more comfortable.

The chief argument against the treatment with malaria is that there is neurosyphilis in parts of the country where malaria is endemic. This is by no means a convincing argument. It does not even hit the point. In the first place, we do not maintain that malaria produces immunity against neurosyphilis nor that it is a specifically acting treatment. Moreover, they have not introduced indisputable evidence that paresis is as frequent in malaria countries as in malaria free countries. They merely guess at that, just as I do if I quote my experience from over three years of medical work in the Near East, where malaria is almost pandemic. There I had gained the impression that paresis in these countries is less frequent than in the western countries, in spite of the prevalence of syphilis. Hitherto there has been no reliable statistical material available which might clear up the doubts in this controversy.

Presentation of 35 cases of neurosyphilis.

THE MANAGEMENT OF URINARY CALCULI*

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In order to properly treat lithiasis of the urinary tract we should have a general understanding of the nature and possible origin of these stones and factors leading to the request for diagnosis and treatment.

The stone or stones may be located in one or both kidneys, either or both ureters, kidneys and ureters simultaneously or one kidney and opposite ureter or kidney and ureter of the same side, in the bladder alone or in various combinations with stone of the upper urinary tract. A ureteral stone always has its origin in kidney or pelvis of the kidney and represents a descent of the calculus with or without symptoms. About 12% of renal stones in the adult are bilateral, whereas in children and infants they are bilateral in about 6% of cases: 66% of bilateral stones are multiple. The ratio of male to female patients is 5 to 1. Of impacted stones 76% occur in the lower ureter, 19% in the upper, and 5% in the middle. The average distance from the bladder of the impaction occurs at about 8 cm.

A capitulation of the studies of stone formation yields the following most likely ideas. In 1918 Cabot concluded that under as yet unknown conditions, supersaturated urine is secreted in which crystallization occurs and in which under certain conditions of retention is held so, growing to the size of a true concretion. Infection is a factor only in so far as it gives rise to conditions creating retention and in that it affects the chemical composition of the stone. In 1920 C. H. Mayo considered stone formation was due to infection. In 1922 Rosenow and Meisser reported the production of calculi in 5 out of 6 healthy dogs by sealing a culture of streptococci repeatedly isolated from the urine of a case of nephrolithiasis into the teeth of dogs.

The most fascinating and yet plausible theory of the cause of urinary stone formation is based on the fact that the urine, a supersaturated solution, keeps its solids in solution by means of the protective influence of the urinary colloids,

either by a process of absorption, due to the enormous surface tension of the colloids or by a reduction of the surface tension between the urine and the mucus membrane of the urinary tract. The tendency of colloids, in themselves unstable, is to fall out of suspension, and with the removal of these colloids precipitation of the supersaturated salts takes place.

Sedimentation in urine does not in itself cause stone. An organic binder is necessary and this consists of irreversible colloids that do not redissolve after being thrown out of suspension. Pure uric acid and urate stones probably form without colloid admixture by the coalescence of their intermediate droplet form, and by presenting a large surface they absorb colloids, forming the mixed stone. Anything then disturbing the equilibrium of the colloids, as any pathology or foreign substance in the supersaturated urine may serve as the starting point of stone formation.

The symptoms of urinary lithiasis vary from the apparently symptomless or so-called "silent" stone to the typical and familiar renal colic. Intermediate types of symptoms are ordinary pains or aches in the kidney regions or in the sides. Perhaps if we inquire closely even in the silent stone cases we may elicit the history of backache or other vague aches or pains. Other signs of symptoms are frequency of urination, dysuria, hematuria, gross or microscopic, pyuria, gross or microscopic, palpable enlargement of the kidney.

The variation in the symptoms and intensity of symptoms presents an interesting phenomenon. Pains are ascribable to the spasm in the ureter and distention above the level of the stone as a result of stasis, which may also be due to ureteral stricture. According to Hunner, the presence of a calculus in the upper tract is presumptive evidence of a coexistent ureteral stricture. The stricture is bilateral and according to him could account for the relatively high incidence of bilateral stone. In his way he has demonstrated the presence of stricture in all his cases of upper tract stone.

The recognition of urinary lithiasis is as a rule not difficult. The symptoms usually direct attention to the urinary tract and this calls for cystoscopic and x-ray examinations. A discussion of the differential diagnosis between urinary lithiasis and abnormal conditions causing a

*Read before the South Chicago Branch of the Chicago Medical Society, April 27, 1926.

similar symptom complex will not be made except to state briefly that urinary lithiasis can be easily ruled out.

Cystoscopically, bladder stones can be visualized even if the x-ray casts no shadow, except in stones of bladder diverticula. A stone in the intramural portion of the ureter may often also be seen. Ureteral stones may be detected by the obstruction to the passage of the ureteral catheter or the scratching of the wax bulb catheter. By far the most valuable diagnostic procedure is the combination of the ureteral catheter and x-ray, making urography possible. A urolith must be differentiated from the phlebolith and calcified retroperitoneal and mesenteric lymph glands. This is done by localizing the shadow with the catheter in the ureter and the picture taken at various angles or in suspected pelvic stone by injecting a shadowgraph fluid to determine whether or not the stone shadow is included by the shadowgraph medium. The value of the shadowgraph medium is demonstrated in cases of stones permeable to the x-ray. If the stone is less dense than the medium, a filling defect may be noted in the location of the stone. If the stone is denser than the medium, the stone then casts a denser shadow than the enveloping medium.

Why all stones do not cast shadows with x-ray is interesting, but is explicable on the basis of its opacity, which varies with the atomic weight of the elements common to the stones. Now if the center and outer layers of the stone are rich in the elements with low atomic weight, no shadow may appear. The opacity is also governed by the arrangement of its constituents, thickness and structure. The following types cast the densest shadows in order of their mention, calcium phosphate, calcium oxalate, calcium and magnesium phosphate, ammonium magnesium phosphate, calcium and magnesium urate and uric acid.

Which type of stone is the most common varies with the report of different investigators. Uric acid and urates enter into probably 80% of the stones. Any stone remaining for any length of time may receive depositions of phosphates, which are usually found in most stones. The center of the stone most truly represents the type.

The treatment of urinary lithiasis depends first on the location of the stone or stones, the

pathology incident to or coincident with the lithiasis and symptoms, the comparative size of the calculus (if ureteral) and that of the ureter, the shape of the stone, the history of previous passage of stones and general conditions of the patient.

We may divide the subject of treatment into three classes, the conservative or manipulative, the operative and the post-operative and post-manipulative. The first method consists of the crushing of stones if in the bladder followed by their evacuation either spontaneously or by an evacuator. As for ureteral stones the object is first to dilate the ureter below the level of the stone by various bougies, dilators or catheters, cutting the ureteral meatus if necessary, and to dislodge a possible impacted stone by the same means, following which procedures, the stone may be passed into the bladder when it may be voided or removed. Excellent dilatation may be obtained by this means, especially if the catheter is left in the ureter for one or two days. These procedures are usually safe and may be repeated often if there are no contraindications to delay.

The great advantage of manipulative treatment lies in the establishment of drainage, a procedure that often improves the function of badly damaged kidneys, relieves symptoms to such an extent that an otherwise emergency operation is obviated by the opportunity to thus condition a patient before operation, and tends to minimize the chances for recurrences. It enables us to determine which side is best first approached in case of bilateral stone by observing the restoration of function of the kidneys. Manipulation is successful in about 75% of cases.

Operative interference consists of cystotomy for bladder stone, ureterotomy for ureteral stone, pyelotomy, pyelo-nephrotomy, nephrotomy and nephrectomy for pelvic and renal stones.

In a general way the indications for operation for renal and ureteral calculi may be summarized as follows: 1. the size and position of the stone with reference to its interference with the flow of urine away from the kidney, 2. the presence of infection, 3. the function of the kidney, 4. pain, 5. the condition of the other kidney, 6. failure or intolerance to manipulation, 7. suppression of urine.

In bilateral cases the following as recom-

mended by Cummings, may serve as a guide as to which side to attack first.

1. With equal function loss and size of stone with assumed destruction of equal portions of kidney tissue, do not operate either side in absence of symptoms, but with active infection attempt drainage.

2. With unequal function loss and equal kidney damage and stone, attack the kidney having the lower function, thereby preventing additional damage and with a view to having the poorer organ improved for a reserve when the better side is operated on.

3. With unequal stone and function loss, unequal kidney damage, remove the more devastating stone first, disregarding the inequality of demonstrable function, unless the kidney having the smaller calculus is absolutely functionless, a fact which makes this type merge into a class with,

4. Unequal stone mass and disproportionate function changes, fix up the more damaged kidney first, even though the opposite side has more symptoms.

In the presence of multiple branched or large stones, hydronephrosis or extensive areas of renal infection, the indications for nephrectomy are a functionless or nearly functionless kidney, a badly infected kidney, a marked hydro-nephrotic kidney, a kidney previously operated on and, of course, malignancy associated with stone.

The indications for conservative surgery are 1, in the presence of single or multiple stones easily removed without great damage to the kidney; 2, in the presence of multiple or large branched stones, marked infection or some other serious complication in the other kidney; 3, when there is a history of repeated stone formation in both kidneys. Conservative surgery is to be preferred when a good functional result can thus be obtained. In the young, conservation should prevail when possible, whereas in the older individual, especially if the symptoms are of long duration and thus probably place the patient past a possible stone-forming period, nephrectomy would be wiser. Again, one must consider that complications that may make nephrectomy necessary, also make it more dangerous.

If in doubt as to the type of operation it is more important to consider the probable func-

tional end results than the possibility of recurrence.

In nephrectomy with ureteral stone on the same side, the ureteral stone must likewise be removed or symptoms may persist. At the Mayo Clinic nephrectomy was done in 37 per cent of 819 cases.

Pyelolithotomy constitutes the procedure in about 40 per cent of cases. Nephrolithotomy will be necessary in about 15 per cent of cases, and especially in those cases where fragments have been left. As to choice between pyelonephrotomy and nephrotomy, the latter is the method of choice if a stone is situated at the end of a calyx and is not accessible through the pelvis, but for best drainage and easier removal with less chance to recur, the former is the preferred. In the presence of cortical degeneration adjacent to the stone, nephrotomy is indicated.

There is nothing of greater importance than the post-operative treatment. We must take cognizance of the fact that infection usually accompanies stone, that stricture is a concomitant pathological phenomenon. We must then, after removal, dilate the stricture, maintain good drainage and resort at times to pelvic lavage. Many patients have often complained of a persistence of symptoms, because of failure to carry out these post-operative manipulations.

An analysis of urinary lithiasis leads to certain definite conclusions. Calculi cause greater renal destruction than any other surgical lesion. Why so much damage occurs is due to the fact that symptoms are often present from one to twenty years before advice is sought or treatment instituted, and this delay is partly due to the fact that many physicians expect to find typical colic or hematuria before advising urologic examinations.

We can expect a net recurrence in about 10 per cent of cases, and by net we mean exclusion of fragmentary calculi remaining after operation or manipulation. Recurrence is greater following the removal of single than multiple stone, and greater after removal of branched stone, probably due to the ease in fragmentation. Large stones are less apt to be followed by recurrence. Infection plays a minor role in recurrence.

Recurrence in the remaining kidney after nephrectomy averages but 3 per cent, and it may be because the duration of the trouble when nephrectomy is indicated was of such long stand-

ing that the patient may be past the stone forming period. In pyelolithotomy recurrence takes place in about 12 per cent of cases, but this operation is more apt to be done when the case is still a stone-former. Nephrolithotomy carries a high recurrence incidence also, probably due to inadequate drainage, cicatricial changes at the site of the stone and because this type of operation is more often done where fragments had been left in previous operations.

Finally, in the combined nephrolithotomy and pyelolithotomy recurrence is least frequent because here drainage is most easily promoted.

25 E. Washington Street.

9113 Commercial Ave.

CHRONIC URETHRITIS: ISOLATION OF THE GONOCOCCUS AND PLEOMORPHISM OF SECONDARY INVADERS SIMULATING THE GONOCOCCUS

CLARENCE C. SÆLHOF, M.D.

John McCormick Institute for Infectious Diseases
CHICAGO

Chronic urethritis is the ban of the urologist. Acute gonorrhea disappears under adequate treatment and consecutive negative smears for the gonococcus are obtained under prolonged stimulative treatment. In a number of instances, the patient will return after a varying period of time with the clinical symptoms of a chronic urethritis. Smear preparations stained by the method of Gram will always show the predominance of a secondary invading organism, usually the staphylococcus. However, in the light of recent development for the isolation and cultivation of the gonococcus, it was assumed that in these instances of chronic urethritis, the gonococcus might be obtained if suitable technique was employed.

Grimberg¹ states that by his method, he was able to obtain the gonococcus in 85 to 90 per cent. of cases of chronic urethritis. He is of the opinion that besides lodging in the prostate gland, the gonococcus invades the seminal vesicles and particularly the liquor seminalis. He states that other organisms may gain prominence, but chronic urethritis is due to the gonococcus.

A modification of Grimberg's technique was used. A series of 14 cases was carefully studied, these patients previously having had treatment

for gonorrhea and discharged upon consecutive negative smears. The method in detail was as follows: liquor seminalis was obtained by gentle stripping of the seminal vesicles and the material obtained (which necessarily contained a small portion of prostatic secretion) was placed in sterile test tubes. These tubes were placed in the incubator for one-half to one hour at 37 C., which tends to liquify the liquor seminalis. Suitable specimens of liquified seminal fluid were then seeded into tubes of ascitic agar.* Incubation was maintained at 37 C. for 24-36 hours and the portion of culture just beneath the surface examined. The cultural findings are listed in Table 1. As observed, gonococci were isolated in only 5 of 14 cases of chronic urethritis, and then only after repeated trial. The gonococci isolated fulfilled all standard morphological and cultural requirements. The secondary invading organisms are listed; they were, in many instances, peculiar in their cultural reaction. Pleomorphism was observed, with reversion to basic strain on cultural transplant. A large number of the staphylococcus colonies showed wide zones of hemolysis upon blood agar: this peculiarity was transitory. Their cultural characteristics were studied in some detail, and the results obtained agreed with those obtained by Julianelle.²

The phase of mixed complicity with the gonococcus is much undervalued. In many instances, from the very beginning, the pure gonorrheal type of disease quickly becomes a mixed infection. From their inception, discharges are observed which vary noticeably in color. Some are white, some yellow, and some occasionally greenish. That different strains of the gonococcus should possess this chromogenic variation is questionable and still unproven. Culture of different colored discharges shows other organisms present. Logically, one may suspect that from earliest urethral activity the gonococcus allies itself with some organism which possesses chromogenic peculiarities when growing on a natural medium.

In Table 2 is given the average day of secondary invasion from alleged initial discharge in 80 cases, obtained by smear and culture preparation. These cases were obtained routinely as

*This medium consists of dibasic acid sodium phosphate agar; in the melted state diluted with sufficient ascitic fluid to make agar concentration about .25 per cent, a semi-gel.

2. Julianelle: Jour. Inf. Dis., 1922, 31, p. 256.

1. Grimberg: Jour. de med. de Par., 1925, XLIV, p. 315.

applying for treatment and are tabulated as number of cases showing approximate date of secondary invasion; the largest number showed secondary invasion 6 days after alleged initial discharge, the next group after 5 days.

Discussion: Whether or not the gonococcus is eliminated by adequate treatment, or falls a victim to the overpowering onslaughts of innumerable secondary invaders, is undetermined. However, literature fails to reveal any phenomenon simulating d'Herelle's bacteriophage in lysis or dissolution of the gonococcus. There are many instances of urethral inflammation which begin as a gonorrhea, and, after treatment, do not show the gonococcus, but do show diplococci morphologically resembling the gonococcus. One is then confronted with a secondary infection which becomes a chronic urethritis kept alive by organisms whose morphotic deviation from basic type is a source of diagnostic uncertainty. Doubtless, this condition has been greatly responsible for much of the hesitancy in prognosing the future of the gonorrhea.

The two common offenders in pyogenic infections of the urethra and adnexa are the gonococcus and staphylococcus. There are other strains of organisms causative of or associated with urethral infection, but they are not consistent malefactors of the urogenital tract. On the basis of frequency of occurrence and similarity in characteristics, other cocci are not so apt to be confused with the gonococcus as the staphylococcus. While the micrococcus catarrhalis is a true Gram negative diplococcus and may be intracellular, it thrives luxuriantly upon any ordinary culture medium and hence affords easy differentiation from the gonococcus. Staphylococci may be found everywhere; they readily become accessories to urogenital infection. From the diagnostic and prognostic standpoint, they would not be so troublesome to the urologist if they were consistently true cocci. They may be inconstant: oval in shape or grouped together in pairs and markedly diplococci in outline. They are usually Gram positive but, in the presence of marked albumin or other adverse conditions to the Gram stain, be relatively Gram negative. In these inconstant respects, they simulate the gonococcus and,

should the basic aniline stains be the sole criterion of diagnosis, they will inevitably be mistaken for them.

Pleomorphism means the property of having many forms; that an individual variety of bacteria may appear to possess more than one shape under different conditions of growth. For example, the staphylococcus may be both round and diploid and retain its basic classification as a coccus. Recent studies in the hydrogen ion concentration relative to bacterial life (I. S. Falk) show that organisms are easily influenced by variation of the conditions surrounding their artificial growth and that such change does not materially alter pathogenicity.

Changes in form of individual strains are not always the result of growth environment. Hiss and Zinnser state that certain organisms, while thriving under apparently ideal and normal cultural conditions, will present atypical forms. However, these variants do not depart from parent type; they may show unnatural clubbing, beading or staining properties, but cannot be propagated into a distinct type which differs from the parent. Naegeli applied the term involution. Under certain conditions, there appeared in cultures, particularly bacilli, irregular and distorted organisms. His opinion was that they were produced by imperfect growth, due to inhibitory influences of some type.

These forms are readily demonstrated in human urethral discharges. Whether such changes are due to some natural or artificial phenomenon is immaterial from the standpoint of diagnosis, since culture will always establish the basic identity of the strain. The vital point to bear in mind is that these organisms are not constant in form and cannot change much without encroaching on the characteristics of organisms of closely allied strains; they may, by cursory examination with basic aniline stains, be easily confused with gonococci. It is really striking to observe how closely they may simulate the gonococcus, not only in shape but in staining reaction and apparent intracellular position; however, when transferred to an artificial medium having ideal cultural conditions, will reassume the morphological characteristics of the basic strain.

Summary: Cultures were made on 14 cases of chronic urethritis, which had previously been

treated for acute gonorrhea, determined by the presence of Gram negative intracellular diplococci. In only 5 instances, or 35.5 per cent., were positive cultures of gonococcus obtained from these cases of chronic urethritis and then only upon repeated trial, in most instances.

In a routine series of 80 cases of gonorrhea, smear and cultural preparations show that secondary invasion of the urethral tract is most likely to occur about 6 days following alleged initial discharge. The most common offender is the staphylococcus group, particularly albus.

Pleomorphism or involution of the secondary invaders is observed simulating the gonococcus. All Gram negative or relatively Gram negative diplococci should be considered as gonococci until proven otherwise by cultural methods: reversion of pleomorphic organisms to basic strain is easily obtained on ideal artificial culture medium.

4456-58 W. Madison Street.

TABLE 1.

Case*		Organisms			Bacillus	
		Gonococcus	Staphylococcus		diph-	theroid
		albus	aureus	citreus	coli	
J. C.	Positive on					
	1st trial ...	+	0	+	0	0
J. K.	Negative on					
	3 trials	+	0	0	0	0
L. V.	Negative on					
	4 trials	+	0	0	0	0
N. O. C.	Negative on					
	3 trials ...	+	0	0	0	0
A. J.	Positive on					
	2nd trial ..	+	+	0	0	0
J. S.	Positive on					
	1st trial ...	+	0	0	0	0
M. J.	Negative on					
	6 trials	0	0	0	+	0
C. B. L.	Negative on					
	3 trials	+	0	0	0	+
J. L.	Negative on					
	3 trials	0	0	+	0	+
N. P.	Negative on					
	3 trials	+	0	0	0	0
R. R.	Positive on					
	1st trial	+	0	0	0	0
J. W.	Positive on					
	3rd trial ...	+	+	0	0	0
C. H.	Negative on					
	3 trials	+	0	0	0	0
C. K. P.	Negative on					
	4 trials	+	0	0	0	0

*Gram negative intracellular diplococci were found on previous infection.

TABLE 2†

Day from initial dis- charge	Total number of cases	Gono- coccus*	Number of cases showing			Bacillus	
			Staphylococcus			pyo- cyaneus	
			albus	aureus	citreus	coli	
1	1	1	1	0	0	0	0
2	9	9	8	1	0	0	0
3	7	7	7	1	0	0	0
4	6	6	6	1	0	0	0
5	18	18	16	0	1	0	1
6	21	21	21	0	0	0	0
7	5	5	5	0	0	0	0
8	9	9	8	1	0	0	0
9	2	2	2	0	0	0	0
10	0	0	0	0	0	0	0
11	1	1	0	1	0	0	0
12	1	1	0	0	0	1	0

† Isolation on dibasic acid sodium phosphate agar.

*One or more pair of gram negative intracellular diplococci.

MESENTERIC THROMBOSIS: REPORT OF CASE FOUR MONTHS OF AGE: FATAL

B. V. McCLANAHAN, M.D.
GALESBURG, ILLINOIS

Because of the rarity of this condition, especially among very young children, I feel that this case is of sufficient interest to be reported.

A. N., male, was born July 4, 1925, being a perfectly developed and normal, healthy baby and the labor at the time of birth was normal. He had had no sickness of any consequence prior to the fatal illness here reported, nor had he had any spells of either constipation or diarrhea.

On October 24 his bowel movement was noticed to be much less in amount than usual and he was given a small enema of soap solution upon the doctor's order. This was returned clear in a short time. At this time he did not show any signs of distress and nursed normally through the greater part of the day.

October 25 he seemed apathetic, listless, refused to nurse and had no bowel movement during the day. Toward evening he developed a moaning, weak cry, which, however, did not appear indicative of any acute abdominal trouble. In the evening a teaspoonful of castor oil was given. Another enema was given and when this was returned a small amount of bright red blood came with it. The apathy and the moaning cry continued until early morning when Dr. G. H. Cowles was called and the case brought into the hospital. During the night, prior to entering the hospital, the patient had vomited several times, at first stomach contents and later clear greenish fluid.

Upon entrance to the hospital he appeared pale, sallow, was moaning and crying continuously and vomiting occasionally. The abdomen was slightly distended but palpation revealed no tumor mass nor did it seem to cause him any pain. His temperature was 101 rectally. He appeared toxic and hungry and with the exception of the history of no bowel movement there was little to indicate that the seat of the trouble was in the abdomen. A rather high, large enema was given, but it was returned soon afterward clear without any fecal or bloody material in it.

Everything was stopped by mouth and an ounce of 5% glucose solution given per rectum every hour. The vomiting ceased as soon as mouth feeding was stopped and he seemed more

comfortable. The temperature gradually rose until 4 p. m. it was 102.5 but by 11 p. m. it had receded to 101 again. During the day the distension gradually increased, the apathy also increased. At 10 p. m. another enema brought away with it a small hard mass of feces about the size of a navy bean, together with some mucus but no blood. At this time, upon the insistent demand of the parents, he was allowed to nurse for a few minutes with the result that he stopped voluntarily and promptly vomited the milk taken.

During the night all his symptoms grew worse and at 8 a. m. the following morning (October 27) his temperature was 103 and the pulse gradually increasing, having reached 160 at this time. Consultant's opinions of the case had continually considered the diagnosis of intestinal obstruction but the symptoms as a whole seemed too mild to fully warrant this conclusion. He had had, however, during his entire illness, the toxicity indicative of duodenal absorption and with this in mind and having explained the high mortality in such cases to the parents, operation was decided upon.

Under a minimal amount of ether anesthesia a right rectus incision 5 cm. in length was made. The abdominal wall appeared almost bloodless and upon opening the peritoneum a small amount of dark reddish fluid escaped. The cecum appeared immediately in the wound, distended but otherwise normal. The large bowel was also slightly distended but otherwise normal. Inspection of the distal ileum for a distance of 12 to 15 inches revealed it to be flaccid, doughy, collapsed and bluish black in color. It had a peculiar soggy, lifeless feel. Stretching the mesentery of the affected portion of the small intestine showed the same condition to exist to its base, and with no pulsation in the vessels, which were filled with clotted blood. A diagnosis of mesentery thrombosis was made on these findings and as the prognosis was considered fatal, due to the large amount of small bowel involved, closure was immediately effected, without inspecting the remainder of the abdominal contents. Eleven minutes elapsed from beginning the anesthetic to complete closure.

The patient was returned to bed where the former symptomatic treatment, including external heat and rectal fluids, was again instituted. The patient died the following morning, a post mortem being refused.

The points of special interest in this case appear to me to be: 1. Age of the patient, four months. 2. Sudden yet insidious onset. 3. Relative small amount of pain either subjective or objective. 4. Cessation of all vomiting by merely stopping oral feeding. 5. Toxicity out of proportion to other findings and symptoms. 6. Bright red blood following an enema given early in the illness. This, however, I feel was probably due to the technique in giving the enema rather than coming from the affected portion of the bowel.

I have been able to find practically nothing in the literature dealing with such a case. Mention is made frequently, in referring to similar conditions in adults, of such etiologic factors as endocarditis, atheroma, arteriosclerosis, cachexias, syphilis, neoplastic growths, adhesions and a multitude of other conditions none of which we could reasonably suspect as being present in this case. We are at a loss to know the cause of the condition in this case.

Frank¹ states that mesenteric thrombosis may occur at any age from one month on and there is certainly no small amount of truth in his further statement in the same article, helpless though this statement leaves us, that "there are several symptoms, which, carefully considered and properly interpreted, may at least suggest the correct diagnosis, although it is regretfully admitted that in the majority of instances a positive conclusion can be reached only at operation or necropsy."

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COFFEE DRINKING BY CHILDREN

Coffee drinking by children has long been regarded with disapproval by pediatricians. There are a number of objections to the practice, among which its harm to the nervous system is important. It is entirely conceivable that the use of caffeine-containing beverages by the child will lead to the production of serious nervous defects later in life.

In their recent book, "Safeguarding Children's Nerves" (1924), Doctors Walsh and Foote clearly indicate that there is an increasing nervous instability of American people as demonstrated by the failure of many of our troops to withstand the stress and strain of active service. These writers believe that the numerous cases of shellshock which were suffered by many American soldiers in the World War were nothing more than cases of hysteria. It is possible that the early use of coffee has had a contributing

part in causing the lack of nervous balance that is exhibited by so many adults in this country.

The drinking of coffee in the United States is steadily increasing, and the average annual consumption now amounts to thirteen pounds or more per capita. No small portion of this coffee is used by children, as shown by a study of the diet of a large number of children of preschool age at Gary, Indiana. This survey was made by the Children's Bureau of the United States Department of Labor. The report mentions that "two-thirds of the entire group were found to drink coffee habitually, and forty per cent to have it more than once a day. Not only so, but in certain of the groups of foreign-born parentage, coffee was drunk by more than ninety per cent of the children, and three-fourths of the Polish group had it two or more times a day."

In 1912, C. K. Taylor, a psychologist, made a study of coffee drinking by school children. He found that out of a group of 464 children, over seventy per cent of them were coffee drinkers. Moreover, and more important still, he discovered that those children who drank the most coffee received the lowest grades. There is no doubt but that coffee drinking by children is generally deleterious to the nervous system of the child. But the greatest harm done to children by this drink is its replacing milk in the diet. The Gary report, referred to above, states that coffee drinking by children "appears to have been inversely proportional to the use of milk. Not only do the schedules show about the same percentage of children drinking coffee as those lacking milk, but a comparison of coffee drinking by milk groups shows the use of coffee to increase markedly as the amount of milk decreases." Commenting upon the disastrous effect of replacing milk by coffee, the report states further: "To leave out milk and substitute coffee plays havoc with any diet, whatever may be its redeeming features."

It is a well known fact that children easily acquire a taste for coffee and are less willing to drink milk after being permitted to use coffee. Miss Lucy H. Gillett, Superintendent of the Nutrition Bureau of the New York Association for Improving the Poor, says in this connection that "children should never be given tea or coffee, not even to flavor milk. They will more often like milk if they are not first taught the combination of milk and coffee."

There are two important reasons why coffee should not be given to children. First, it has the harmful effect of crowding milk out of the dietary of the child. Second, it is an undesirable and unneeded stimulant.

In view of the fact that a large number of American children, especially in the industrial classes, are coffee drinkers, the matter is worthy of serious consideration. —*From Mellon Institute of Industrial Research.*

A doctor says that a man may be drunk through suffering a severe shock. So that you need not even drink the whisky. It's sufficient to pay for it.—*Punch.*

THE DEAF CHILD'S THOUGHT

ELIZABETH TULLEY

A little boy with eyes of clearest light,
To all the sounds of earth had deafened grown;
And yet, sometimes he seemed to hear aright
Sounds that to hearing ears were all unknown.

He oft had sat within cathedral dim,
As master hands swept o'er the organ keys,
Felt the vibrations, as a mighty hymn
Rose prayer-imbued to heaven, upon the breeze.

One morning fair he passed in happy play,
To watch some birds, full throated, carolling,
Then to his teacher came in eager way—
"Does God play the organ for the birds to sing?"

LONGFELLOW ON THE LINKS

I drove a golf-ball into the air,
It fell to earth, I knew not where,
For I alas, was short of sight
And couldn't follow it in its flight.
I kicked my caddie into the air,
He fell to earth, I know not where,
For I deemed it a thing exceedingly vile,
That inferior caddie's superior smile.
Soon, soon after, I found the ball,
It had hardly budged from the tee at all;
And the caddie was standing sardonically grim—
I had kicked my opponent instead of him.

Boston Transcript.

Society Proceedings

ADAMS COUNTY

May 10, 1926. This was the regular meeting of the society held at the Quincy Elks' Club and was called to order at 8:15 P. M. by the president. Thirty members and eight guests were present.

Dr. Center reported the progress that the Orthopedic Committee had made and stated that they had met with the committee from the Women's Clubs and that the following arrangement would appear to be the best way to handle the proposed Orthopedic Clinic. The Clinic to be held on alternate months at each hospital and that same to be in charge of three men from the staff of the respective hospitals who would be entirely responsible for the conduction of the clinic. Dr. Center stated that another meeting would be held on May 12 with the committee from the Women's Clubs and if the society wished to endorse the formation of a clinic to be run as outlined above now was the time to approve of same. It was moved, seconded and carried that the society approve of the arrangements that have been submitted by the Orthopedic Committee. Dr. Koch, Chairman of a committee appointed to investigate matters pertaining to a local bath system asked for further time. The Secretary read a letter from the Quincy Elks' Lodge relative to charging \$5.00 per meeting for the society and made a motion that a committee be appointed with Dr. Walter Stevenson as Chairman to investigate the desirability

of the society holding its meetings elsewhere or to continue with the present arrangements with the Elks' Lodge. Seconded and carried. The President appointed Drs. Stevenson, McReynolds and Knox on this committee. The Secretary called the attention of the membership to the fact that the Sheppard-Towner bill was at present before the U. S. Senate in an endeavor to have its provisions extended for another two years and if we wished to protest, now was the time to do it. Dr. Center made a motion that the Secretary telegraph both U. S. Senators and protest this matter. Seconded and carried. The Censors reported favorable upon the application for membership in the society of Dr. H. Claude Fortune of Payson, Ill., and he was duly elected by ballot.

Dr. Herman H. Cole of Springfield read a very interesting paper entitled, "Emergency and Elective Surgery in the Field of Pulmonary Medicine with Special Reference to Spontaneous Pneumothorax, Hemoptysis and Collapse Therapy." This paper was discussed by Drs. Calvert, Bitter, Center, Irwin, Smith of Kirksville, Mo., McReynolds, Koch, Shulian and Cole.

Through the courtesy of Dr. Calvert a motion picture of pulmonary tuberculosis by Dr. Cole of New York City was obtained but due to the fact that there was some faulty mechanism in the motion picture apparatus it was not shown. Dr. J. W. H. Pollard of Evanston, read the report of the health survey of Adams County which he had recently completed. This was discussed by Drs. Beirne, Center, Smith, Koch, Stevenson, Knox and Wells.

Adjournment was called about 10:45 P. M.

HAROLD SWANBERG, M. D., Secretary.

COOK COUNTY

CHICAGO MEDICAL SOCIETY

Regular Meeting, May 5, 1926

1. The Use of Iodine in Hyper-thyroidism, Paul Starr. Discussion, H. M. Richter.
2. Metabolism and the Anesthetic, Arthur E. Guedel, Indianapolis, Indiana. Discussion, Alex A. Goldfield.

Regular Meeting, May 12, 1926

1. Recent Observations on the Physiology of the Pancreas: A Hormone for External Pancreatic Secretion Proved, Andrew C. Ivy.
2. Blood Sugar as a Guide in the Treatment of Diabetes Mellitus, Walter H. Nadler.
3. Effect of Sympathectomy on Vascular Diseases of the Extremities, Loyal Davis.
4. The Reconstructive Surgery of Hand Injuries, Summer L. Koch.

Regular Meeting May 26, 1926

1. Two Case Reports: Case No. 1. Removal of a Large Root Cyst and Involved molar en masse. Illustrated by lantern slides. History—Diagnosis—Technique of Operation—Pathological Findings—Result. Case No. 2. Reconstruction of Mandible by bilateral resection. Illustrated by lantern slides. Demonstration of patient after report is made. History—Indications for Operation—Technique of Operation—Postoperative Treatment—Result, Louis Schultz. Ap-

paratus constructed and applied for immobilization of mandible in Case No. 2, also postoperative treatment after patient returned home, R. C. Willett, Peoria, Illinois. Discussion—Frederick B. Moorehead and Herbert A. Potts.

2. Medicine in Europe, Carl Beck.

3. The Last of the Plaster Cast, Gilbert H. Wynekoop.

HENRY COUNTY

The Annual Meeting of the Henry County Medical Society was held at the Kewanee Public Library, Thursday, May 6, 1926, at 1 P. M. President G. D. Drennan presiding.

James N. Downs of Atkinson, a former member, was voted into the Society without the usual formalities.

Letter from Scott County Medical Society, Davenport, Ia., inviting us to attend a basket picnic June 23, 1926, was laid on the table.

A resolution was passed in favor of a Section of Radiology in Illinois State Medical Society.

The Henry County Crippled Children Clinics were endorsed by the Society.

The Tubercular Clinics, as held in the past and to be held in the future, were also indorsed.

A committee on Resolutions on the deaths of D. F. Stewart and Geo. Mikelsen was appointed by the chair. Committee: G. H. Hoffman, Kewanee; H. W. Waterous, Galva; and J. A. Gustafson, Orion. Cards of thanks for flowers from Mrs. D. F. Stewart, Mikelsen family and Dr. G. P. Noren were read and accepted.

P. J. McDermott was then elected delegate to the Illinois State Medical Meeting for the years 1926 and 1927. W. H. Conser, Cambridge, alternate for 1926 and 1927.

In preparation for the Tri-County Medical Meeting which is to be held in Kewanee in the fall, the following committee were elected: Program Committee, J. H. Oliver, G. H. Hoffman, and H. W. Waterous. Dinner Committee, C. A. Coffin, J. T. Boswell, and C. P. White. Arrangement Committee, H. N. Heflin, W. D. Hohman, and J. H. Murphy. Entertainment Committee, E. L. Eustice, W. T. Heaps, and J. A. Gustafson.

The secretary was instructed to accept transfer card of H. C. Begglesstone when presented.

The election of officers resulted as follows: president, John H. Oliver, Kewanee; vice-president, J. E. Westerlund, Cambridge; secretary-treasurer, P. J. McDermott, Kewanee.

Appointed Board of Censors: Chairman, Chas. A. Coffin, Kewanee; J. A. Gustafson, Orion, and Robert H. Stewart, Galva.

Business session then adjourned.

At 2 o'clock the Scientific program was presented. Dr. Isaac D. Rawlings, Director of Public Health, Springfield, gave a very practical paper on Public Health, strongly advocating a County Health Officer to be a physician who would devote his entire time to this work, and not be in general practice.

Following this paper Dr. James G. Carr, Assistant Professor of Medicine of the Northwestern University Medical School, gave a very instructive paper "The Etiology, Diagnosis and Medical Treatment of Infections of the Kidneys."

The last paper of the afternoon was given by Dr. John A. Wolfer, Assistant Professor of Surgery, Northwestern University Medical School, Chicago, "The Pathology and Surgical Treatment of Kidney Infections." This paper was illustrated by stereopticon slides, and the doctor had a number of specimens of infected kidneys on exhibition, through the courtesy of the Northwestern University Medical School.

All three papers were well received and it was the opinion of those in attendance that the program was one of the best we have had in years. The papers were not only practical, but decidedly instructive and helpful.

There were physicians present from Kewanee, Galesburg, Galva, Bradford, Geneseo, Orion, Woodhull and Cambridge.

P. J. McDERMOTT, Secretary.

MASON COUNTY

The Mason County Medical Society met at Easton, Ill., May 3, 1926, at 8 P. M.

Dr. C. H. Stubenrauch of Havana, the president, called the meeting to order and election of officers was first in order.

Dr. C. H. Stubenrauch was re-elected for 1926-27 and Dr. W. R. Grant of Easton was re-elected secretary-treasurer.

Dr. F. L. Carey of Havana was elected delegate to the state meeting at Champaign the week of May 18, 19 and 20.

After the usual routine of business the society had the pleasure of having present our councilor Dr. S. E. Munson of Springfield, who gave us a good talk. After Dr. Munson, we listened to an excellent talk by Dr. Neal of Springfield, who has served so well for the Medical Society before the legislature.

Dr. I. D. Rawlings was present as was Dr. Don Deal, both of Springfield, who spoke to the doctors present.

It was a most pleasant and instructive meeting. The Mason County Society was highly pleased to have the Springfield doctors make a sacrifice to come and meet with us.

Nine members were present.

C. H. STUBENRAUCH, President.

W. R. GRANT, Secretary.

ROCK ISLAND COUNTY

The regular meeting of the Rock Island and Scott County Medical Societies was held Tuesday, May 11, at the LeClaire Hotel, in Moline.

The dinner, served at 6:30, was followed by a business session and the following program:

Bronchial Asthma, Its Successful Management. Dr. Burton Hazeltine, of Chicago, Consulting Oto-Laryngologist to Cook Co. Hospital and Attending same at Henrotin Memorial Hospital.

The Internist's Problem in Asthma. Dr. A. W. Lafarge, Chicago, attending physician at Henrotin Memorial Hospital.

Clinical Results of the New Method. Dr. Ralph Kuhns, Chicago, director of Department of Pediatrics, Ill. Post Graduate Medical School and West Side Hospital, Chicago.

Discussion, H. P. Miller, M. D., Rock Island, Ill., Guy C. Harkness, M. D., Davenport, Ia.

The following resolutions were passed at the business session:

WHEREAS, It is generally conceded that the giving of anesthetic is the practice of medicine.

WHEREAS, Courts have ruled that the giving of an anesthetic is the practice of medicine.

WHEREAS, The Board of Medical Examiners of several states have so ruled.

WHEREAS, It is against the spirit of the law, against the ethics of medicine and against the ruling of a large majority of accredited hospitals, for nurses or any one else not legally qualified to practice medicine to give an anesthetic.

Therefore be it resolved, That it shall be unethical for any member of the Rock Island County Medical Society to employ other than licensed and qualified physicians to administer anesthetics, except under supervision, in emergency.

JOHN C. SOUDERS,

A. T. LEIPOLD,

WM. D. CHAPMAN.

It was also unanimously voted to go on record against Senate Bill No. 4085, "to strengthen the Harrison Narcotic Act of December 17, 1914, as amended, and for other purposes."

And it was further unanimously voted to send a copy of these resolutions for publication in the ILLINOIS MEDICAL JOURNAL.

J HENRY FOWLER, Secretary.

Marriages

JOHN VINCENT LAMBERT to Miss Margaret May Carroll, both of Chicago, May 1.

Personals

The new Madison County Sanitarium at Edwardsville was formally opened to the public, May 7.

Dr. Bellenden S. Hutcheson has been reappointed health officer of Cairo.

Dr. Agnes V. Fuller addressed the Chicago Council of Medical Women, May 25, on "Cesarean Section."

Dr. George E. Shambaugh, Chicago, was guest of honor at a dinner given by the Morgan County Medical Society, May 3.

Dr. Glenn J. Tygett has resigned as city health

officer of Anna and accepted a position on the staff of the Anna State Hospital.

At the recent annual meeting of the Chicago Tuberculosis Society, Dr. Henry C. Sweany was elected president; Dr. Hiram H. Bay, vice president, and Dr. Walter H. Watterson, Maywood, secretary.

Dr. Edward S. Blaine has been elected president of the Chicago Roentgen Society; Dr. Walter T. Bronson, vice president, and Dr. Robert A. Arens, secretary-treasurer.

Dr. Cyrus H. Anderson, formerly superintendent of the Illinois State Hospital at Anna, assumed charge of the state hospital at Watertown, May 15, succeeding Dr. Joseph H. Ellingsworth, who was transferred to the state institution at Alton.

Dr. Augustus G. Polhman, professor and director of the department of anatomy, St. Louis University School of Medicine, St. Louis, gave an illustrated lecture before the Peoria Medical Society, Peoria, May 4, on "An Interpretation of Rudimentary Organs in the Human Body."

News Notes

—St. Anne's Hospital is drawing plans for a 250 bed addition which will cost about \$800,000.

—Springfield's new \$100,000 contagious disease hospital was opened May 13.

—The monthly clinical meeting of the Chicago Surgical Society was held at the Research and Educational Hospital, University of Illinois.

—The Albert Billings Memorial Hospital group at the University of Chicago will be turned over for operation about Jan. 1, 1927.

—The Garfield Park Hospital is planning a \$690,000 building to be constructed on the site of the present nurses' home.

—The University of Chicago has been bequeathed \$500,000 by the will of Mrs. Harriet Smith for the construction of a contagious disease hospital to be known as The Charles Gilman Smith Hospital.

—Construction work was started, May 3, on the new six story Rogers Park Hospital at 6970 North Clark Street, the capacity of which will be 102 beds. Dr. F. Patrick Machler, formerly superintendent of the Iroquois Hospital, is president of the organization.

—The annual meeting of the Chicago Neurological Society was held at the new prison at Statesville, May 22; among others, Dr. Sanger Brown, president, gave an historical sketch of the society; the scientific program was in charge of Dr. Herman M. Adler and his assistants.

—The new U. S. Veterans' Bureau Hospital, erected at Five Points, North Chicago, for the care of mentally ill veterans, was dedicated with appropriate ceremonies, May 15. Among the speakers at the ceremonies were Gen. Frank T. Hines, Washington, D. C., director of the Veterans' Bureau; Mr. Scott W. Lucas, commander of the American Legion, Department of Illinois, and other distinguished civilians.

—The final meeting of the season of the Chicago Ophthalmological Society will be at the Hotel Sherman, May 17; Dr. William H. Luedde, St. Louis University School of Medicine, St. Louis, will give an address on "The Mechanism of Accommodation," and Dr. Robert Von der Heydt will demonstrate the Nordenson-Zeiss camera for photographing the fundus.

—The meeting of the Physicians' Fellowship Club, Chicago, May 17, was held in honor of Dr. Jacob C. Krafft, president of the Illinois State Medical Society. Among those who rendered tribute to Dr. Krafft's service to medicine in Illinois were Drs. Edward H. Ochsner, John R. Neal, Harold M. Camp, James W. Vander-slice, Jeremiah H. Walsh and William D. Chapman.

—Rush Medical College will conduct, June 14-18, a clinic week for the benefit of its alumni, which will become an annual event if it proves of general interest. Members of the faculty have heartily responded to the plan, and suggestions from the alumni, addressed to Rush Medical College, Harrison and Wood streets, will be appreciated. The annual faculty and alumni dinner will be at the Auditorium Hotel, June 15, 7 p. m. Among other reunions, the 1916 class will hold its tenth anniversary at this time.

—The board of trustees of the Medical and Dental Arts Club include Drs. Frank Billings, William Allen Pusey, Jeremiah H. Walsh, Hugh N. MacKechnie, Charles E. Humiston, and, in the dental profession, Drs. Otto U. King, Charles N. Johnson, Alexander A. Goldsmith and M. M. Printz. Dr. John S. Nagel is the president of the club; Drs. John H. Cadmus and Robert H.

Hayes, vice presidents; Dr. Frederick R. Green, secretary; Dr. Harry B. Pinney, treasurer, and Mr. John A. King, business manager.

—Special features at the Mississippi Valley Conference on Tuberculosis, Chicago, June 14-16, Edgewater Beach Hotel, will be the annual banquet, a child health education luncheon, a seal sale conference, and a secretaries' luncheon; among the topics for discussion will be the education of the layman, after-care and employment of the tuberculosis, chest surgery, and tuberculosis in industry. Dr. Linsly R. Williams of the National Tuberculosis Association; Charles E. A. Winslow, Dr. P. H., president American Public Health Association; Dr. James A. Britton, Chicago; Dr. Anthony J. Lanza, New York; Drs. John M. Dodson, Frank L. Rector and Morris Fishbein, all of Chicago, will address the conference.

—Representatives of the larger medical libraries of Chicago met, May 8, to discuss the medical library situation of that city with a view to working out some form of cooperation whereby the duplication of expensive and rarely used material may be avoided and such material be made mutually accessible. As a preliminary to such action, it seemed necessary to agree on some outline of the scope of the various libraries. Those present were impressed with the importance of such cooperation and the benefits that might be expected in the expenditure of available funds as well as in the general administration of the several libraries. Dr. William F. Peterson, professor of general medicine, University of Illinois College of Medicine, was appointed chairman of a committee to work out some definite form of coordination.

Deaths

EDWARD HIRAM ABBOTT, Elgin, Ill.; Rush Medical College, Chicago, 1895; a Fellow, A. M. A.; Spanish-American War veteran; for many years member and at one time president of the board of education; on the staffs of the Sherman and St. Joseph's hospitals; aged 59; died, April 12, following a long illness.

ELI STILLMAN BAILEY, Chicago; Hahnemann Medical College and Hospital, Chicago, 1878; aged 74; died, April 26, at the Hinsdale (Ill.) Sanitarium, of cerebral hemorrhage.

CHARLES H. BOAZ, Mattoon, Ill.; Chicago Homeopathic Medical College, 1890; aged 72; died, April 24, of angina pectoris.

CHARLES WESLEY BOND, Chicago, Rush Medical

College, Chicago, 1925; aged 26; died, April 25, of pneumonia.

JOHN WILLIAM CRADDOCK, Chicago; University of Illinois, College of Medicine, Chicago, 1920; aged 31; died, March 9, following an operation for goiter.

THEODORE J. DOEDERLEIN, Chicago; Medical Department of the University of Illinois, Chicago, 1894; a Fellow, A. M. A.; member of the Chicago Gynecological Society; on the staff of the Grant Hospital and formerly on the staff of the Deaconess Hospital; aged 54; died, April 7, of carcinoma of the stomach.

CHARLES FRANKLIN ELY, Chicago; New York Homeopathic Medical College, 1876; aged 70; died, April 15, of heart disease.

PETER EUGENE M. GOETZ, Chicago; Western Reserve University School of Medicine, Cleveland, 1885; aged 62; died, March 28, of chronic myocarditis.

HERMAN GOODMAN, Chicago; University of Berlin, Germany, 1881; aged 70; died, April 1, of chronic interstitial nephritis and myocarditis.

DWIGHT J. HARRIS, Evanston, Ill.; University of Michigan Medical School, Ann Arbor, 1864; Civil War veteran; aged 88; died, March 23.

GEORGE W. HOLT, McLeansboro, Ill.; University of Louisville School of Medicine, 1876; aged 77; died, April 11, of chronic nephritis.

FELIX KALACINSKI, Chicago; College of Physicians and Surgeons, Chicago, 1898; a Fellow, A. M. A.; aged 52; died, April 15, of carcinoma of the liver.

CLYDE P. KENNEDY, Decatur, Ill.; Medical College of Ohio, Cincinnati, 1880; aged 69; died, April 7, of heart disease.

WILLIAM D. MATNEY, Greenville, Ill., (licensed, Illinois, 1878); Civil War veteran; aged 85; died, April 9, at the Soldiers' and Sailors' Home, Quincy, of paralysis.

FRANK DAVID PAUL, Rock Island, Ill.; State University of Iowa College of Homeopathic Medicine, Iowa City, 1886; aged 64; died, May 3, of pneumonia.

PEYTON SMITH POPE, Benton, Ill.; University of Tennessee College of Medicine, Memphis, 1877; aged 75; died, in April, of pneumonia.

EDWIN G. PROCTOR, Kane, Ill.; College of Physicians and Surgeons, Baltimore, 1882; member of the Illinois State Medical Society; aged 70; died, April 3, of heart disease and gastroduodenitis.

HAMILTON RUSH RIDDLE, Mechanicsburg, Ill.; Rush Medical College, Chicago; 1873; Civil War veteran; aged 84; died, April 17, of bronchopneumonia.

JAMES H. SEYLER, Preemption, Ill.; Western Reserve University School of Medicine, Cleveland, 1867; University of Pennsylvania School of Medicine, Philadelphia, 1868; also a druggist; for twenty-five years postmaster; aged 83; died, April 25, of senility.

ELMER E. VAUGHAN, Chicago; Hahnemann Medical College and Hospital, Chicago, 1889; a Fellow, A. M. A.; formerly professor of surgery at his alma mater; aged 60; died, April 30, of splenomyelogenous leukemia.



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Casec (2 envelopes)	$\frac{3}{4}$ ounce

Mix the CASEC with enough of the cold water in a cup to make a thin paste. Add the paste to the balance of the water, pour in the milk, and heat the mixture over a slow flame to the boiling point, stirring constantly to avoid lumps. Allow the mixture to boil actively for 1 minute, remove from stove, cool, and divide into bottles sufficient for the 24-hour feeding.

Suggested Amounts to Be Given at Each Feeding Are as Follows:

Age Months	Ounces Each Feeding	Number of Feedings in 24 Hours
1	2 to 3	7
2	3 to 4	7
3	4 to 5	7
4	5 to 6	6
5	5 to 7	5
6 to 9	6 to 7	5
9 to 12	7 to 9	5

Infants under Four Pounds may require 8 feedings, 2 ounces each, in the 24 hours

In two or three days add 1 level tablespoonful of *Dextri-Maltose* No. 1, and increase one tablespoonful every other day until the baby is taking 5 or 6 level tablespoonfuls of *Dextri-Maltose* in the 24-hour Casec feeding.

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